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CITY OF SCARBOROUGH

CREATING A MASTER PLAN FOR THE DEVELOPMENT OF CITY YARD FACILITIES

DECEMBER 1987

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Mr. D. E. O'Leary, P. Eng.
Commissioner
Maintenance & Construction Department
City of Scarborough
150 Borough Drive
Scarborough, Ontario M1P 4N7

December 18, 1987

Dear Dennis:

As per our telephone conversation last week, I enclose 20 unbound copies of our draft report. Like the point form progress notes, it should be treated as a working document and not a final draft for wide circulation. Additional information has yet to be supplied in both the chapter text and the appendices. Some of the missing material has been left out deliberately because it depends on obtaining a Steering Committee consensus on which a strategic alternative has to be developed in detail. For the remainder (mainly the appendices) we are still progressing their completion. When Duncan gets back from his jaunt to the Far East on January 11th, we will sort out the outstanding detail in preparation for Progress Meeting No.5 on the 18th. We look forward to meeting with you then.

Yours very truly,
DELOITTE HASKINS & SELLS

Dick Singlehurst.

W. J. Singlehurst, P. Eng.,CMC
Director, Operations Management

Enclosures

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CITY OF SCARBOROUGH

CREATING A MASTER PLAN FOR THE DEVELOPMENT OF CITY YARD FACILITIES

1.0 INTRODUCTION

The City of Scarborough provides services to its residents through a number of municipal departments. To carry out their programs, some of the departments use one or more of a network of yard facilities dispersed across the City. The yards are used for two primary functions which are (i) quartering of personnel and storing their vehicles, equipment and materials and (ii) performing maintenance/manufacturing workshop operations.

As the City has grown the network of City yards has evolved to meet the requirements of the user departments. Currently eight yards are in operation and support the activities of the Departments of Works, Recreation and Parks, Maintenance and Construction. Three other users are also located on the site of the main yard at Ellesmere and Midland Avenue.

With the recognition that:

- it may be economic to relocate some of the existing yards
- some existing yard buildings do not provide appropriate workplace environments for their present uses
- some land at the Upton Road Yard had been sold
- property had been acquired at McCowan Road and Eglinton Avenue to relocate the Upton Road Yard operations
- the inventory of housing, parks and streets continues to grow with the pace of development,

the City decided the timing was appropriate to conduct a study to create a Master Plan for the development of its yard facilities. As a consequence, a proposal call was issued in July 1987. Appendix A has the terms of reference the City specified in its request for proposals.

In August 1987, Deloitte Haskins & Sells were retained to carry out the study and prepare the Master Plan.

This report summarizes the work performed between September and December 1987. It contains the full supporting detail for the City Yards Master Plan - the second deliverable produced from our study engagement. In carrying out our assignment, we benefitted from the direction we received from the study Steering Committee composed of senior City staff. Throughout the progress of the study, we also received input and active cooperation from many of the staff of yard using departments. Their contribution to our study is duly acknowledged.

2.0 OVERVIEW AND HIGHLIGHTS

(To be prepared after recommended alternative is endorsed by the Study Steering Committee)

SUMMARY OF YARD SPACE REQUIREMENTS FOR ALL DEPARTMENTS

EXHIBIT 3.1

SUMMARY OF YARD SPACE REQUIREMENTS FOR ALL DEPARTMENTS

	Office & Pers. Accommodation	Functional Shop/ Internal Storage	External Storage	Vehicle Parking	Parking For Employees & Visitors	Specialty Space	Totals
1. Works	35,565	53,925	184,430	155,000	166,800	31,725	627,445
2. R&P	21,100	18,845	120,095	86,600	86,400	-	333,040
3. M&C	15,440	26,900	10,400	44,600	48,900	21,800	168,040
4. Central Stores	1,190	20,000	30,000	4,600	3,000	-	58,790
5. Animal Control	3,014	8,611	-	1,600	9,300	-	22,525
6. Library Admin.	9,975	20,025	-	2,400	22,500	-	54,900
Totals (sq. ft.)	86,284	148,306	344,925	294,800	336,900	53,525	1,264,740

Existing Department Provisions

Excluding salt domes, the total building area available at the existing yards is 215,170 square feet (Upton has approximately 3,900). Total site area excluding Upton Yard but including McCowan is 23.81 ha or 2.56 million square feet.

Notes:

(a) Exhibits 3.2, 3.3 and 3.4 are for Works, R&P and M&C program build-up.

(b) Central Stores storage space requirements are 10% less than existing based on the assumption that more efficient area and cube utilization will be possible for approximately the same physical amount of inventory (stock and non-stock).

(c) Animal Control requirements have been derived from the preliminary drawings prepared for the replacement facility for the existing centre.

(d) Of the above total space requirement (11.75 ha in total) 234,590 square feet (or 18.5%) is for building area.

3.0 EXISTING YARD TENANT NEEDS AND REQUIREMENTS

3.1 The Collective Perspective

To accommodate the complete requirements of all existing yard users over the next five to ten years, approximately 11.75 hectares of "useful" space is required. By useful we mean the purposeful space and exclude landscaping, access, circulation and related areas which are not by themselves a primary requirement. Exhibit 3.1 opposite illustrates the space differentiation used and the build-up by user of the total requirement. Further details are present in Appendices D and E.

In developing the space requirements, we have generally tended to be conservative through (i) using a stand-alone program approach coupled with consistent and practical space standards, (ii) incorporating adequate allowances for expected program changes, and (iii) allowing for identified deficiencies in existing space allocations. Collectively therefore, we see the aggregate numbers quoted in Exhibit 3.1 as maximum ones. Even without taking into the fact that not all existing user programs (and some program components) need to be based at a yard, there is a strong indication that the City has a surplus of land for yard related purposes. Neglecting any considerations of location and operational suitability, the 23.81 hectares quoted in Exhibit 3.1 is clearly much more than needed and that some disposal or alternative uses have to be explored.

The sections that follow deal with each user in turn. After discussing space requirements, user location preferences, delivery capabilities and related matters are addressed. These include considerations of whether or not a particular program or program component should be yard based. Finally, the foregoing points are summarized in a manner which permitted alternative yard configurations to be developed, and then the two leading generic alternatives to be specified in sufficient detail for full evaluation.

EXHIBIT 3.2 SUMMARY OF YARD SPACE REQUIREMENTS FOR WORKS

EXHIBIT 3.2

SUMMARY OF YARD SPACE REQUIREMENTS FOR WORKS

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Sanitation	10,625	(6+145)	3,000	-	50,400	45,300	-	109,325
2. Waste Water	5,180	(9+52)	13,820	9,265	10,800	18,300	-	57,365
3. Street Operations	11,000	(16+120)	30,305	168,115	88,500	72,900	31,725	402,545
4. Survey	1,305	(1+17)	830	-	2,700	5,400	-	10,235
5. Yard Admin. Support	2,600	(12)	-	-	-	8,100	-	10,700
6. Transportation/ Sign Shop	2,700	(7+20)	5,250	7,000	2,600	8,100	-	25,650
7. Inspection & Test Lab	2,155	(2+27)	720	50	-	8,700	-	11,625
Totals (sq. ft.)	35,565	(53+381)	53,925	184,430	155,000	166,800	31,725	627,445

Existing Department Provisions

At Upton and Morningside Yards, the site area available is approximately 375,000 sq. ft. and building space is approximately 10,950 sq. ft. At Nashdene and Ellesmere the corresponding number for Works occupied areas are 127,930 sq. ft. and approximately 47,570 sq. ft. respectively.

Notes:

(a) All space data is in sq. ft.

(b) For Type "A" space, the numbers in brackets represent the office based (first number) and field/shop personnel (second number).

(c) In Program 3, Type "B" space allows for contracted vehicles; Type "E" allows for contractor personnel in addition to City staff; and Type "F" space is for recycling centres at two yards.

(d) In Program 4, Type "B" space allows for the eight vans yet to be purchased.

(e) In Program 5, Type "A" space allows for 200 sq. ft. for a union office; Type "E" allows for 15 visitors.

(f) In Program 3, the peak seasonal (i.e. winter) space requirements have been used.

3.2 Public Works

The yard needs and requirements of the Works Department are driven by the programs the Department currently delivers, the projected changes in these programs and any new program initiatives expected to be introduced. The new initiatives can arise from responding to local requirements or through legislation and regulation changes. Appendix B1 summarizes our understanding of the current and expected future programs over the next 5 to 10 years. That appendix in turn provided input for Appendix D1 which lists by program the resources the Department anticipates will be required over the study 5 to 10 year planning horizon. The data was established with the users. In the process of recording, it was subject to our review whenever we could not understand the rationale behind alterations in resource levels.

Exhibit 3.2 is an extract from Appendix D and tabulates the space needs of Works by type in seven major program categories. It also shows the expected staffing levels. Of particular note in the exhibit is the increase in types "A" and "B" space. Works have identified a requirement for an increase of more than 50% from their existing accommodation. The reasons for this increase are:

- replacing substandard accommodation at Upton Yard
- inadequate accommodation at Nashdene to house existing operations based there, and their projected growth.

From the perspective of where program resources should be located, Works has a mix of needs, sometimes within the same program because of the different nature of component activities.

EXHIBIT 3.3 SUMMARY OF YARD SPACE REQUIREMENTS FOR RECREATION AND PARKS

EXHIBIT 3.3

SUMMARY OF YARD SPACE REQUIREMENTS FOR RECREATION AND PARKS

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Parks Maintenance	11,375	(13+135)	7,670	49,300	51,900	45,300	-	165,545
2. Special Duties	2,805	(2+37)	2,725	7,430	10,700	11,700	-	35,360
3. Horticulture	2,280	(1+32)	1,250	8,025	10,800	10,200	-	32,555
4. Forestry	2,735	(1+39)	800	52,500	10,200	12,300	-	78,535
5. Parks Shop	1,310	(2+14)	5,760	2,840	2,200	4,800	-	16,910
6. Concessions	595	(2+3)	640	-	800	2,100	-	4,135
Totals (sq. ft.)	21,100	(21+260)	18,845	120,095	86,600	86,400	-	333,040

Existing Department Provisions

At the five yards used, assuming a 60/40 R&P/Works split at Nashdene, Type A and B space amounts to approximately 36,480 sq. ft. and 5.61 ha or about 600,000 sq. ft. of site area.

Notes:

(a) The numbers in brackets are the respective office and field/shop staff that have to be housed.

(b) All other numbers are in sq. ft.

(c) Miscellaneous existing storage (small) at other locations has been included.

(d) Permanent staffing is around 110-115 based at the yards.

(e) Seasonal requirements increase Type "D" and "E" space by approximately 29,400 sq. ft.

Basically, some activities have to be carried out across the City:

- on a routine basis on a regular cycle, e.g. most Sanitation services
- on a routine basis irregularly, e.g. some Street Operations services
- on a random basis responding to Public or inspection input, e.g. special Sanitation pickups
- on a random basis for one off planned projects, e.g. Waste Water Contruction.

Support activities, i.e. in Programs 4 through 7, are either consumed centrally or at locations dictated by the primary service providers. Translating the foregoing into yard location preferences means that Works has to have its resources distributed across the City with some reasonably centrally located to maximize resources availability for value adding activities. Programs 4, and 5 do not necessarily need to be yard based but there are some advantages in housing their activities in the yards.

3.3 Recreation and Parks

Paralleling the procedure described with Works in Section 3.2, Appendix B2 catalogues the various programs that influence Recreation and Parks resource needs and requirements. These resources in turn are reflected through Appendices D2 and E, and in Exhibit 3.3 as yard space requirements by program and in total. Compared to the total building space currently in use, Recreation and Parks have identified about a 10% increase in their requirements. This is due to responding to and addressing existing deficiencies, and planning to increase resource levels incrementally to upgrade some program services, particularly in forestry.

The location pattern of service consumption is of a similar type to that of Works but naturally the specifics differ. There is a pronounced seasonal fluctuation in the volume of services delivered and hence a corresponding variability in yard space requirements over the year. The numbers in Exhibit 3.3 are intended to be peak requirements. The concessions program does not necessarily have to be operated from a yard.

EXHIBIT 3.4 SUMMARY OF YARD SPACE REQUIREMENTS FOR MAINTENANCE AND CONSTRUCTION

EXHIBIT 3.4

SUMMARY OF YARD SPACE REQUIREMENTS FOR MAINTENANCE AND CONSTRUCTION

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Vehicle & Equipment	3,555	(9+27)	21,650	-	22,500	12,000	3,000	62,705
2. Physical Plant	2,960	(7+24)	150	9,600	2,800	10,200	-	25,710
3. Buildings Maintenance	3,925	(5+45)	5,100	800	19,300	16,200	600	45,925
4. New Buildings	1,400	(7)	-	-	-	3,600	-	5,000
5. Internal Support	3,600	(18)	-	-	-	6,900	18,200	28,700
Totals (sq. ft.)	15,440	(46+96)	26,900	10,400	44,600	48,900	21,800	168,040

Existing Department Provisions

Building "D" at Ellesmere has a building area of approximately 12,500 sq. ft.

1st floor functional, personnel and office space is approximately	12,500
2nd floor offices and personnel space is approximately	4,600
Total internal space available is therefore	17,100

Programs 2 through 5 are currently housed in the existing building "D". Their requirement from the above data is (2,960 + 150 + 3,925 + 5,100 + 1,400 + 3,600) or 17,125 sq. ft.

The existing garage building at Ellesmere (Part of Building "C") has a building area of 52,689 sq. ft.

Notes:

(a) Program 1 specialty space is for fuelling @ 750 sq. ft. per yard.

(b) Program 3 specialty space is for access to dust collector hopper. It could double as a vehicle parking space.

(c) Program 5 specialty space is for the antenna/radiobase (17,000 sq. ft.) and one weigh scale (1 @ 1,200 sq. ft.) per yard.

(d) The brackets after the Office and Personnel Accommodation space requirements contain the number of personnel office based (the first number) and the number who work in the field (or shop) and use personnel space as their base.

3.4 Maintenance and Construction

Replicating the pattern of Sections 3.2 and 3.4, Appendices B3, D3 and E contain the background material and resource consequences of Maintenance and Construction program needs. Exhibit 3.4 is the result in terms of yard space requirements to support the Department's programs over the next 5 to 10 years. As the exhibit demonstrates, no additional requirements beyond their existing accommodation levels have been identified.

In terms of location preference, some program activities suggest resources should be concentrated with the programs sited adjacent to major users, e.g. in the case of vehicle and equipment maintenance. Others point to a reasonably central location because of the distribution of work sites, e.g. in the case of Buildings Maintenance. Not all program components are actually based in a yard, e.g. some of 2 and 3, being instead located at the point of service consumption. Other program components, e.g. some in 4 and 5 need not be yard based.

3.5 Other Users

Appendices B4 and D3, B5 and D5, B6 and D6 describe the relevant background material on Central Stores, the Animal Control Centre and the Public Library Board Administration. It follows the pattern already established for the departments discussed. The resulting space requirements are listed in Exhibit 3.1 on page 4 along with the major yard user departments.

Central Stores should be yard based to service its principal users who are the M&C deliverers of that department's programs, mainly 1 and 3. The space requirements are based on the existing amount used by the Stores, but reduced by 10% based on physical observations that more efficient cube utilization is potentially possible.

The Animal Control Centre requirements have been taken from the preliminary plans for a replacement centre which were prepared in 1986. Although the substandard existing centre sits on Ellesmere Yard, the replacement need not be yard located. Centre management stipulates a central site with good access is necessary to meet their program objectives. While a new location on Ellesmere Yard lands would be acceptable, so would other independent centrally located sites.

Space requirements for Library Administration were derived from its existing housing uses and the provisional plans the Board has for splitting the housing of the current functions located at Ellesmere. Only the building maintenance activities would benefit from continuing to be yard based.

3.6 Summary

The foregoing discussion, comments and conclusions on location preferences for all the existing yard users are assembled in Exhibit 3.5 on the next page. It was in this form that they were used as an aid to devising the "ideal" yards' configuration concept.

EXHIBIT 3.5 YARD PROPERTIES AND FACILITIES LOCATION PREFERENCES

User	Location Preferences
Works	The major routine components of the three main programs (S., S.O., W.W.) should be based in their local service areas. The non-routine parts of the same programs should be centralized at single locations preferably sited to minimize travel, communication and central difficulties.
Recreation & Parks	Grounds (area) maintenance should be based close to or in the parks being served. Shop operations and special duties should be concentrated in one location, preferably centrally. The concessions programs does not have to be yard based.
M&C	PPO and BMD should be based at the same yard preferably centrally located with supplementary space in specific facilities when appropriate (e.g. at the Civic Centre for BMD). V&E maintenance should be concentrated and located close to the quarters holding the largest portion of the fleet.
Central Stores	Adjacent to the garage.
Animal Control	It should have a central location on a main thoroughfare on a site with appropriate zoning. Either an existing City owned or vacant site would be suitable. A yard location is preferable but not essential.
Library Admin.	Could be located anywhere, but splitting functions currently housed at Ellesmere is planned. A City owned site would be preferable but a yard location is optional.

4.0 THE "IDEAL" YARDS' CONFIGURATION CONCEPT

As our work on the study proceeded, we developed a broader and deeper understanding of the nature of the requirements summarized in Section 3.6 of the report. Our preliminary thinking about how best to meet the requirements - given absolutely no constraints - was to visualize a network of three to five yards of appropriate size and location. We envisaged them supported with specific additional sites for materials and equipment storage where this could be justified operationally and economically.

We did not pursue the three yard scenario as an ideal because we deemed it infeasible from a number of points of view. They were:

- the total requirement indicated the yards would have to be large individually
- the dichotomy of no central yard in this ideal configuration and the fact that only one existing yard - the central one - had adequate space
- the extremely limited chances of physical realization considering the existing City yard land inventory and potentially available sites
- operational precedent established by two major yard users of providing service from "four-yard-type" arrangements.

We concluded therefore that a three yard concept development would not help produce solutions worthy of analysis because they would all be dominated by conceptually superior alternatives.

With the elimination of a three yard arrangement, we went on to develop a protocol for the four to five yard scenario. It was based on the rationale of closeness to customers (for reasonable response and dispersal) or service areas, efficiency of shop operations, and the trade-off between number of facilities and resource utilization. Our protocol consisted of the following statements:

(a) The City should have a maximum of five yards.

(b) One yard should be positioned centrally and one each should be located in the northeast, southeast, southwest and northwest sectors of the City.

(c) The four area yards should have an appropriate capability mix from the major users and be centred in areas with concentrated service consumption.

(d) The individual yards should be arranged and administered on the basis that contributes most to effectiveness, economy and efficiency, i.e. on a functional, zone or mixed organization basis with integrated facilities as specific conditions and circumstances require.

(e) The central yard would be for support in repair, maintenance and manufacture, and for delivering services consumed on a dispersed basis across the City or where centrally based specialization is beneficial.

(f) A variation in the five yard arrangement is to fold the central yard into one of the others making it the "mother" yard. Alternatively, the central yard functions and capability could be allocated among the four area yards.

(g) Where justified by concentrated demand for service (and hence operationally and economically), either seasonally or on average over the year, a four or five yard configuration should be augmented by storage areas (e.g. in a park) and working spaces (e.g. in a building complex).

With an established protocol, knowledge of existing properties and facilities' characteristics naturally leads into the generation of potential solutions. The next chapter of the report presents the latter as a prelude to describing and discussing the potential alternatives we identified for developing the City yards.

5.0 EXISTING PROPERTIES AND FACILITIES CHARACTERISTICS

Eight yards - Ellesmere, Nashdene, Morningside, Birchmount, Upton, Brimley, Thomson Park and Heron Park are in operation. Upton is scheduled to close and be replaced. A site at McCowan and Eglinton has been acquired by the City with a view to relocating the Upton Yard functions to that site. Appendix C summarizes the inventory of facilities we compiled on the main dimensions of site characteristics, local setting, utilization and land use regulations. Our working papers contain complete supporting detail along with a selection of photographs. We have not included details of the Upton site because of the action already taken by the City over its disposal.

Exhibit 5.1 on the next page, taken from Appendix C summarizes the available site and building areas. Points that should be noted are (i) the question mark over more intensive use of the Morningside site because of its previous role as a garbage landfill, and (ii) the site at McCowan has no expansion options, and in addition will probably be reduced due to road widening. The exhibit records the fact that the available space on the existing site, less Upton, plus the proposed McCowan site, is approximately 23.81 hectares (2.56 million sq. ft.) with roughly 215,000 sq. ft. of building area.

With regard to tenant department usage, Works use two yards exclusively - Morningside and Upton - and shares two, i.e. Nashdene and Ellesmere. Recreation and Parks use four yards exclusively - Birchmount, Brimley, Heron Park and Thomson Park - and shares Nashdene. All other users are located at Ellesmere. They are Maintenance and Construction, Central Stores, Animal Control and Library Administration of the Public Library Board.

When Upton closes and the proposed McCowan proceeds, the configuration in place will basically become a central yard with four area yards in the north, east, south and west. As such, it mimics the ideal but rotated through 45 degrees. The smaller existing yards - Brimley, Heron Park and Thomson Park - under this arrangement would either be closed or function as purely storage

EXHIBIT 5.1 SUMMARY OF EXISTING YARD FACILITY PROPERTIES

Yard	No. of Structures	Agg. Area Sq. Ft.	Site Area Hectares
Birchmount	1	15,450	1.78
Ellesmere	6	158,024	9.76
Thomson Park	1	1,435	0.07
Brimley	1	2,680	0.73
Heron Park	1	2,410	0.16
Nashdene	1	24,176	4.81
Morningside	2	7,059	2.20
Upton	2	3,886	1.28
		215,120	20.79
Proposed McCowan	n/a	-	4.91

Notes:

(a) Salt domes of 7,678 sq. ft. of building area per dome have not been included at Ellesmere, Morningside or Upton yard sites (23,036 sq. ft. in total).

(b) Storage sheds have not been included in the above.

(c) Ratio of total building area to site area is (215,120 + 23,034)/(20.79 + 107,640) i.e. 1 to 9.4.

(d) The proposed McCowan Yard site area will probably be reduced by 0.61 hectares for road widening.

locations. In addition to surplus site area in aggregate, the existing yards are not therefore situated in the "ideal" places. However, physical constraints associated both with the individual existing yards and potential alternative locations limit the amount of flexibility available to generate feasible options. The next chapter describes the potential alternatives for development we identified bearing the above points in mind.

6.0 THE POTENTIAL ALTERNATIVES FOR DEVELOPMENT

6.1 Our Approach

In generating feasible alternatives, we endeavoured to improve on the existing configuration, take advantage of the aggregate surplus site space, and to locate any new yards where space is available, zoning was compatible, and positional advantages were evident. We did not conduct a comprehensive search across the City in and around the ideal locations for yard sites. To avoid potential conflict with other City objectives and existing users of "ideal" sites, we relied instead on the catalogue of Industrial Vacant Land in the City issued by the Economic Development Department in January 1987. Whenever a new site was required in developing the alternatives, we therefore selected the most suitable plot(s) in the appropriate Industrial District. Sections 6.2 through 6.7 that follow describe the generic options we identified as a feasible set of development alternatives.

6.2 Build Up the Bigger Yards

This alternative involves keeping and developing Ellesmere, Nashdene, Morningside and McCowan. The yards at Birchmount and Brimley would be closed and the lands sold, if the City had no further use for them. Heron Park and Thomson Park Yards would be downgraded to storage locations. More than two storage locations may be required depending on the specific characteristics of the demand being serviced from each main yard. Depending on the different combinations of departmental program allocated to or between each yard, variations are possible in how this alternative can be implemented. The major users - Works and Recreation and Parks - would, however, have operations based at each one of the four yards.

6.3 Eliminate the Biggest and the Smallest

With this alternative, Nashdene, Morningside, McCowan and Birchmount would be kept and developed. The Ellesmere and Brimley Yards would be closed and their buildings and land sold. Heron Park and Thomson Park Yards would be treated in a similar manner to that described in Section 6.2. Once again, depending on program assignment to the four yards, variations in this generic alternative are possible.

Because this alternative has approximately one third less site area than the alternative of Section 6.1, it is highly probable that it will only permit retaining programs that must be yard based as being so located. Even with this limitation, the space requirements, when matched with site specific characteristics, may dictate that Brimley has also to be retained. Instead of retaining both Birchmount and Brimley, a new yard appropriately located might also be contemplated. Unfortunately, no sites are available in the Ellesmere and Wexford Industrial Districts. One appeared to be in the Golden Mile Industrial District. It has the drawback of proximity to McCowan being immediately north of the existing Upton site. Exchanging the site at McCowan for the block of land in the Golden Mile Industrial District under discussion can also be envisaged because the latter is a larger site.

6.4 Eliminate the Biggest and the Smallest and Replace a Potential Problem

This alternative is a variation on the one described in Section 6.3. Morningside Yard would be replaced with one yard in Coronation Drive or Centennial Industrial Districts along the lake, and one yard in the Rouge Industrial District.

6.5 Replace the Biggest and the Proposed

With Ellesmere closing and McCowan lands being sold or exchanged, the existing trio of yards at Nashdene, Morningside and Birchmount would be rounded out with (i) a smaller new central yard in the most easterly part of Progress Industrial District, and (ii) a new area yard in Golden Mile Industrial District.

6.6 Use Three New Yards

Two conceptual variants of this alternative exist. The first is an evolution of the option described in Section 6.5. It would involve closing Ellesmere and Birchmount Yards and disposing of the McCowan lands. Nashdene would be kept along with Morningside, and new yards would be established as per Section 6.5 along with one in Milliken or Steeles Industrial Districts.

The second variant shifts away from a centrally located "mother" yard to one with two "mother" yards. Each "mother" yard would have two smaller satellites. Nashdene would function as the northern "mother" yard and McCowan would be developed to fill the role of the "mother" yard in the southern half of the City. Nashdene satellites would be the existing Morningside yard (just south of the 401 Highway north-south boundary) and a new yard in Milliken Industrial District. The new McCowan Yard would have the existing yard at Birchmount as one of its satellites and a new yard (the third one) in Coronation Drive Industrial District as the other.

With the type of arrangements described, the first one would have a centrally located yard with just enough space for the activities that either must be centrally based or confer significant economic advantages from being so located. In the second arrangement with two "mother" yards, each one would have both centrally assigned activities and local area ones. Both "mother" yards could then be expected to be larger (in aggregate) than a single central "mother" yard configuration.

It is also possible to envisage the existing Morningside Yard being replaced by a new yard in the Rouge Industrial District. This would make the two "mother" yards, four satellite yards configuration one that requires four new yards. While a total of six yards is more than the "ideal", it is not impractical, given the distribution of population in the City. After considering an arrangement with four new yards, the final potential alternative addresses implementing the ideal configuration.

6.7 Go as Close as Possible to the "Ideal"

Five new sites for the "ideal" configuration would have to be found because the existing yards are all in the "wrong" locations. Each of the existing yards would be closed, although those in the parks could function on a temporary or seasonal basis for quartering equipment and materials. The non-park sites would be sold if they were not required by the City for other purposes. One possible arrangement derived from the industrial vacant land catalogue discussed in Section 6.1 is a set of five yards located as follows:

Industrial District Name & Catalogue Map Code		Vacant Site No.
1 in Centennial	B	8 through 11
or Coronation Drive	C	7 or 9
1 in Milliken	I	23 through 28, or 9, or 10
1 in Rouge	M	Parts of 9, or 23, or 5 or 6
1 in Progress East	L	4

Substituting an existing yard (and developing it) for one of the set above would produce variations on the basic generic alternative.

7.0 ALTERNATIVES EVALUATION

7.1 Preliminary Considerations

Before we began looking at the detailed aspects of alternatives evaluation, we first reviewed them for feasibility from the perspective of site and site availability. This was done as a means of eliminating some of the contending alternatives from further study. In conjunction with size and availability fit, we also assessed whether or not any of the alternatives were dominated by any of the others from an economic and operational point of view. Appendices F and G contain the results of this work. Exhibit 7.1 summarizes the three main alternatives that emerged. They are:

- retaining the Ellesmere option and developing it and the bigger yards
- disposing of Ellesmere and (i) establishing one new "mother "yard, or (ii) operating without one
- disposing of Ellesmere and establishing two new "mother" yards.

In the exhibit, the reference numbers relate to the specific section of Chapter 6 where the potential alternative was first described. The next section explains the methodology we adopted to examine the pros and cons of the three serious contenders.

7.2 Criteria and Methodology

We proposed to the Study Steering Committee that the alternatives be evaluated in a multi-dimensional manner and that the existing situation and yards configurations be taken as a base line. The implication of the last point is that an incremental approach would be employed in assessing impacts. After clarifying discussions, we presented to the Committee the dimensions (or criteria) that were in our opinion the most important.

EXHIBIT 7.1 **ALTERNATIVES SIZING**

Yard Location	Reference Alternative Nominal Space Available					
	6.2	6.3(1)	6.3(2)	6.3(3)	6.6(2)	6.6(3)
Ellesmere	9.76					
Morningside	2.20	2.20	2.20	2.20	2.20	
Nashdene	4.81	4.81	4.81	4.81	4.81	4.81
McCowan	4.30	4.30	4.30	4.30	4.30	4.30
Birchmount		1.78	1.78	1.78	1.78	1.78
Brimley			0.87			
Balance at Upton			0.55			
New in Northern Half of City				4.00		
New in Milliken I.D.					2.00	2.00
New in Rouge I.D.						2.00
New in Coronation or Centenntial I.D.					2.00	2.00
Totals	21.07	13.09	14.51	17.09	17.09	16.89

Notes:

(a) All figures are in hectares.

(b) McCowan site land area is actually 4.91. The 4.30 listed allows for proposed road widening.

(c) Making any changes to the assignment of City operations to Birchmount will probably require the site access to be improved.

(d) The balance at Upton would only be suitable for storage purposes.

(e) New yard site areas are nominal ones.

They were:

- physical factors
- operational acceptability
- effects on levels of service delivered to the public
- economic/financial impact on the City as a whole
- intangibles

We now discuss each of the set of criteria in turn.

Physical Factors

In a nutshell, this can be summed up as dictating that the recommended alternative be readily implementable. Some of its components have already been discussed in Section 6.1 where we explained how we generated the potential alternatives. With that set now reduced to three main contenders, such matters as matching requirements with available and easily acquirable space and site specific characteristics like access, zoning and planning compatibility come into play. The way City operations are assigned to each yard and whether or not the space provisions are made in integrated multi-story buildings may also be important considerations.

Operational Acceptability

On this dimension we are addressing the particulars of such matters as access and its consequences for disposal and response, distribution of resources across the City, "live-ability" of space allocations from a tenant perspective, the mechanics of communication, coordination and control, available crew time for value adding activity, and the suitability of any consequential changes in working arrangements. Some of the aspects listed overlap with physical factors indicating interdependence. In the absence of mandatory requirements and building constraints imposed by the way tenant operations must be performed, we decided to adopt as a benchmark, the "no worse than at present" rule of thumb.

Effects on Levels of Service Delivered to the Public

These really flow from the operational regime either imposed by a particular yard configuration or chosen by management as the effective way to deliver departmental programs. Given that this is so, we chose to assume that if an alternative was acceptable on operational grounds then the impact on levels of service would also be acceptable as a consequence. We appreciate that what matters is the public's perception of any actual impact, but believe that user department management can synthesize it to the extent necessary for it to be incorporated into their departmental modes of operation.

Economic/Financial Impact

While a multitude of influences could be included under this heading, we suggested to the Steering Committee that only agreed major or material items be included in a present value approach. As the impacts were expected to be sensitive to the implicit and specific explicit assumptions adopted, we further proposed that these be tested, and in particular that:

- land values for potential sales or acquisitions estimates be acceptable to the Economic Development Department
- construction and modification cost estimates be acceptable to the Maintenance and Construction Department
- financial approach and parameters used such as the social discount rate are acceptable to the Treasury Department.

Intangibles

Intangibles cover the qualitative impacts on such important areas as industrial relations, morale, management control, quality of working life, a departmental yard focus versus a City yard focus. With there being

different opinions on how intangibles interact with the more readily quantifiable effects of a specific alternative, we only comment on the particular issues we deem important to the particular alternative under consideration.

Methodology

A paired comparison process was used to differentiate, (i) between the two alternatives involving disposal of the Ellesmere site and then, (ii) between the retaining Ellesmere option and the better variant of disposal alternative. In the first stage, detailed economic/financial impact evaluation was only to be used if it was required to confirm or clarify the indicators amongst the other criteria.

We deliberately decided not to use numerical rankings, weightings relating to significance and cumulative scores because we considered such procedures unwarranted.

8.0 THE RECOMMENDED ACTION

Subject to the conditions stated below, we recommended that the City adopt the two "mother yard", four satellite yard concept as the basis for its yard development over the next 20 to 30 years. This means that the Ellesmere yard operations would be phased out over time and that all the land at the site be sold for redevelopment. Good decisions in the past resulted in the fortunate position the City has with Ellesmere Yard operations today. We believe the time is right for the City to make another strategic decision about its yard facilities to prepare the way for the next phase of the City's growth over the longer term.

The conditions are threefold. Funds are required for the yard development. In this respect, the variation in opinions of the value of Ellesmere site needs to be removed. A first condition is, therefore, that an independent professional valuation establishes that the Ellesmere site is worth a sum large enough to cover the yard development and leave a surplus. Our second condition relates to the physical details and operational details. These must, within reason, satisfy and be acceptable to the use departments. The third condition involves the important issues relating to other planning processes currently taking place in the City, and on which planning we have limited information owing to the confidential nature of of its content. On a hypothetical basis, however, a larger City plan to develop the lands and properties around the Civic Centre will almost inevitably include serious consideration for the redevelopment of land such as the Ellesmere site.

As stated earlier, we recommend that an appropriate plan should include disposing of the Ellesmere site, and the setting up of two "mother" yard plus four satellite yard system. We believe that this plan will best serve the longer terms interests of the City and its citizens.

APPENDIX A

TERMS OF REFERENCE

APPENDIX A

TERMS OF REFERENCE

The Terms of Reference for the study were clearly stated in the objectives and scope of work segments of the Request for Proposal 87P-043 issued by the City in July 1987. We reproduce below from Sections 1.2 and 1.3, the relevant material from the RFP.

Study Objective

The objective of the study is to develop a Master Plan which addresses the economic alternatives for location and operation of municipal yard properties and services performed at each location.

Scope of Work

In view of the foregoing, a study is required which will review present operations at each yard and make recommendations relevant for rationalizing our yards, services and facilities to the economics of centralizing, decentralizing or amalgamating similar activities. Specifically, the consultant shall:

(a) Review departmental activity forecast, organization and operating responsibilities including users, purpose and communities serviced.

(b) Review and analyze existing properties and identify what facilities are required in the future and their potential geographical locations.

(c) Review workshop activities to the extent that duplication of service can be analyzed and used as input to decisions on alternate or more economical approaches.

(d) Prepare a Master Plan recommending the most economical and practical approach to service the City as a whole. This would include the results of findings in (a), (b) and (c) above, a feasibility study with a cost benefit analysis on the potential physical moves and changes in activities and a plan of implementation.

APPENDIX B

B. YARD USER PROGRAMS AND NEEDS OVER THE NEXT FIVE TO TEN YEARS

B1 Works
B2 Recreations and Parks
B3 Maintenance and Construction
B4 Central Stores
B5 Animal Control
B6 Public Library

APPENDIX B

YARD USER PROGRAMS AND NEEDS OVER THE NEXT FIVE TO TEN YEARS

The pages of this appendix, subdivided by department then program, summarize the relevant program details that have a direct bearing on the total resources required for program delivery (and hence lead to City Yards needs and requirements). Such matters as:

- program segments, components, functions and focus
- current levels of service and activity
- nature of program demand and its influence on how, when and where service is delivered
- key indicators of future activity levels for current programs
- potential program changes (e.g. additions, deletions, reduced or increased levels of service etc.) over the next five to ten years
- applicable City and/or department policy on sourcing resources and capabilities

are covered, if they are applicable to the particular program in question. The purpose of the summary of the programs was to serve as a factual basis for establishing City Yards needs and requirements that will probably have to be addressed and resolved - if departmental programs over the next five to ten years are to be properly supported. All the data that follows has been derived from interviews with City personnel, coupled with reviews of historical and current operating documentation and reports. While there is some uncertainty over how departmental programs will develop, the scenarios presented are intended to reflect "most likely" outcomes.

APPENDIX B1

WORKS

Programs

1. Sanitation
2. Waste Water
3. Street Operations
4. Engineering Survey Services
5. Administrative Support
6. Transportation/Sign Shop
7. Engineering Inspection and Testing Services

APPENDIX B1
WORKS

Program: 1. Sanitation

. Program segments, components, function and focus
  - collection of general solid waste
  - collection of refuse from apartment buildings, on a contract basis
  - multi-material collection for recycling in 1988-89
  - administration of the newspaper recycling program

. Current levels of service and activity
  - personnel level of 136 full-time employees, consisting of 6 supervisory personnel and 130 field staff. In addition, about 16 students are hired each year to fill in for workers on vacation
  - pickup of general refuse is provided twice per week for City households
  - bulky item pick up requests from the public are scheduled as required
  - the volume of general refuse collected in 1986 was about 143,000 tonnes
  - volume of general refuse collected has increased in the last two years at a rate of about .8%
  - fleet size of 67 trucks, 8 of which are spares
  - implementation of improve scheduling systems has increased productivity and reduced the cost per tonne of collecting refuse

. Location of service consumption and customers
  - the program services all residential households and potentially all apartments in the City
  - for this purpose, the City is divided into 116 pickup zones
  - the pickup zones are supported on a roughly equal basis out of 4 yards; Nashdene, Ellesmere, Upton and Morningside
  - the packers deposit the refuse at three designated Metro transfer sites, located at Victoria Park and Eglinton, Markham and Sheppard and Victoria Park and McNicoll

. Characteristics of program demand and their implications
  - with known levels of refuse generation, the program workload is reasonably predictable. Bulky item pick up requests come into the Administrative Support function at random. That function schedules them in conjunction with Sanitation supervision
  - operations in the winter are more difficult and time consuming due to weather conditions. Vehicle start-up and transportation time are the main activities that take more time

. Key indicators of future activity levels for current programs
  - growth in the number of city households is the main determinant of future activity levels
  - future decisions regarding the development of the north and northeast areas of the City could affect activity levels
  - further activity in contracting apartment building refuse collection will increase program activity levels

. Potential program changes over the next 5 to 10 years
  - potential changes in this program could result from the implementation of legislation requiring curbside recycling. The Department has considered the implications on its resources if they were to provide the collection services. Most municipalities with curbside recycling programs in force have used the resources of independent recycling operators to collect the refuse. This approach would not require an increase in resources (a reduction would be expected) from the present City sanitation program capabilities, but does not appear feasible due to conditions within the Union Agreement. Hence, the intention is to provide collection services internally, which would require 15 additional collection vehicles and associated labour requirements

. Applicable policy on sourcing resources and capabilities
  - present capability dictates what activities have to be contracted out and what can be done internally

. Other points and issues
  - field staff are on an incentive system. This is a contentious issue with field staff in other programs
  - the winter weather conditions requires clearing of snow and ice off the vehicles and is considered by Department management as unsafe, time consuming and increases wear on the vehicles. The Department contends that covered storage is required

Program: 2. Waste Water

. Program segments, components, function and focus
  - preventative maintenance through examinaton of manholes and sewers
  - preventative maintenance through cleaning watercourses, sewers (by rod, drag and/or flush), catchbasins, and by clearing snow at (bus stops)
  - structural repairs to watercourses and sewers
  - water pollution cleanup and prevention
  - monitoring of uses and abuses of the sewer system

. Current levels of service and activity
  - personnel level of 61 full-time employees, consisting of 9 supervisory staff and 52 field staff
  - activity levels of some of the program's operations include: 19,600 manhole inspections, 22,500 m examined by TV, 1,600 sewer blockages removed, 580 km of watercourse cleaned, 366,600 m of sewers cleaned, 78 connections, 950 catchbasins repaired, 14,100 personhours for watercourse improvements, 10,400 personhours of structure repairs, 4,400 personhours for pollution control

. Location of service consumption
  - program must service the sewers and watercourses throughout the City
  - general service is provided from 3 yards; Nashdene, Upton and Morningside
  - a centralized construction crew is based at Ellesmere for major construction activities

. Characteristics of program demand and their implications
  - the preventive maintenance and structural improvement components are scheduled on a reasonably predictable basis
  - watercourse and sewer blockage clearing, and pollution control occur on a more random basis
  - activity levels are relatively consistent throughout the year
  - the recent acquisition of TV inspection equipment has enhanced/expanded the capability of the program by permitting remote inspections of house to main sewer lines to be performed. Personnel levels are not expected to change as a consequence

. Key indicators of future activity levels for current programs
  - growth in the amount of City streets, and subsequently sewers, will impact the activity levels
  - the aging of the current sewers and watercourses will require increased levels of maintenance

. Potential program changes over the next 5 to 10 years
  - greater emphasis will be placed on tracing and eliminating contaminants, with the support of EDP and CAD systems

. Appliable policy on sourcing resources and capabilities
  - present capability determines what activities will go out or be done internally

. Other points and issues
  - there appears to be an internal impetus to increase the volume of TV inspections done internally

Program: 3. Street Operations

. Program segments, components, function and focus
- snow and ice control on City sidewalks and streets
- snow fence installation and removal
- street cleaning
- road surface maintenance, requiring dust control and filling of gravel roads, and filling and resurfacing of paved roads
- maintenance (including mowing) of roadside areas, including ditches, boulevards, curbs and sidewalks
- servicing of streets to include installing entrance culverts, installing entrance curbs, erecting bus shelters, and issuing weed control work orders
- operating the recycling centres and the mobile trailer home sewage holding tank facility
- monitoring Department installations and construction sites during the weekends and at night

. Current levels of service and activity
- personnel level of 125 employees consisting of 16 supervisory staff and 109 field staff. Up to 11 casual employees are sometimes employed
- some of the activity level indicators include: 558,300 m of sidewalks cleared, 35,000 tonnes of salt/sand used, 22,900 m of snow fence installed, 41,700 km of curb lanes cleaned, 94,000 m of road cracks filled, 37,100 m of road resurfaced, 6,300 m of ditching, 36,000 m of curb replaced, 22,500 sq. m of sidewalk replaced, 1,700 m of entrance curbs installed and 50 bus shelters erected.
- snow and ice control capability for rapid response to storms is available 24 hours per day through an emegency crew based at Ellesmere

. Location of service consumption
- the program must service the streets and adjacent areas throughout the City
- general street service is provided from 3 yards; Nashdene, Upton and Morningside
- the activities involving concrete repair, asphalt repair, yard operations, mechanical street sweeping etc. are centralized and operate out of the Ellesmere Yard

. Characteristics of program demand and their implications
  - the street cleaning, surface maintenance, roadside maintenance, and street service activities are scheduled on a relatively predictable basis
  - the snow and ice control activities provide the department with a degree of uncertainty in scheduling
  - fluctuations in winter activity levels are handled by contacting some of the snow and ice control activities, e.g. grader work

. Key indicators of future activity levels for current programs
  - growth in the amount of City streets, and the subsequent increase in snow and ice control, and maintenance requirements, will impact the activity levels
  - the aging of the current streets and sidewalks will require increased levels of maintenance in future

. Potential program changes over the next 5 to 10 years
  - no significant changes

. Applicable policy on sourcing resources and capabilities
  - present capability determines what activities will go out or be done internally. In particular, capability to cover high volume specialized functions, and functions requiring expensive capital equipment for short periods of time, are contracted out, but use the yards as a base of operations
  - during the winter months, some of the centralized construction service crews are re-assigned to support street clearing operations

. Other points and issues
  - management feels that increased internal storage for vehicles used in winter, and for equipment not used in winter, is required
  - the addition of a salt dome at the Nashdene yard is considered to be essential

Program: 4. Engineering Survey Services

. Program segments, components, function and focus
  - surveying of new subdivisions, roads, sewers, flood control areas, etc.

. Current levels of service and activity
  - personnel level of 16 full-time employees, consisting of 1 supervisory staff and 15 operational staff. In addition, 2 students are hired annually
  - the activity levels include: 29 preliminary surveys 12.1 km, 24 construction surveys 10.6 km, and 44 final surveys 14.5 km

. Location of service consumption
  - service consumption is required wherever there is new construction within the City
  - recent activity has been mainly in the northern part of the City

. Characteristics of program demand and their implications
  - demand for service has been reducing in the recent past

. Key indicators of future activity levels for current programs
  - changes in the amount of subdivision and road construction within the City has an impact on the program activity levels

. Potential program changes over the next 5 to 10 years
  - no significant changes

. Applicable policy on sourcing resources and capabilities
  - present capability determines what activities will go out or be done inside

. Other points and issues
  - plans are being made to acquire 8 vans to provide the survey crews with transportation. This will replace employee use of their personal vehicles to carry out their duties.

Program: 5. Administrative Support

. Program segments, components, function and focus
- register, resolve and/or forward public enquiries, complaints and emergencies for Works
- administer the rental and distribution of flashing barriers used by Works' personnel
- inspect for non-compliance of road allowance by-laws and untended refuse
- maintain the City's road inventory
- provide a clerk/typist for superintendents and foremen within Works
- administer the payroll system
- prepares annual budgets for programs and Works yard based functions
- collect meterological data and supply it to Environment Canada

. Current levels of service and activity
- personnel level of 11 full-time employees, consisting of 1 supervisor and 10 office staff

. Location of service consumption
- the program's enquiry and emergency components are provided on a city wide basis, directly to the citizen over the telephone from 7:30 a.m. - 4:00 p.m.
- the payroll function requires the Works' foremen to deliver their crew's time sheets to the office at Ellesmere on a daily basis
- the by-law inspection function requires the inspectors to travel throughout the City
- other components require office support only
- service is provided at the Ellesmere yard only

. Characteristics of program demand and their implications
- the majority of the components experience relatively stable demand levels, hence the scheduling of activities is reasonably predictable
- the demand level for support of public enquiries and emergencies is reasonably stable

- Key indicators of future activity levels for current programs
  - changes in the City's population will impact activity levels
  - changes in the activity levels of the Street Operations, Waste Water and Sanitation programs could impact the current activity levels

- Potential program changes over the next 5 to 10 years
  - no significant changes

- Applicable policy on sourcing resources and capabilities
  - all requirements are currently handled within the program's capabilities, future increases in capability would be handled by increasing the program's resources

- Other points and issues
  - no significant issues

Program: 6. Transportation/Sign Shop

- Program segments, components, function and focus
  - administration of the street light agreement with the Scarborough Public Utilities Commission (includes issuing purchase orders)
  - monitoring of street light outages
  - inspection of traffic operations
  - manufacture of signs for traffic and pavement marking
  - installation and maintenance of traffic and pavement marking signs

- Current levels of service and activity
  - personnel level of 18 full-time employees, consisting of 3 supervisors and 15 operational staff
  - the personnel level is expected to increase to 20 full-time employees, in order to facilitate the increasing responsibilities for street lighting

. Location of service consumption
  - the transportation programs are delivered on a city-wide basis (streetlights and traffic operations)
  - all of the Works' programs are users of the Sign Shop. The major users are Transportation and Recreation and Parks
  - the signs are installed and maintained throughout the City
  - the Sign Shop is located at the Nashdene Yard

. Characteristics of program demand and their implications
  - the Transportation Division's programs are dependent upon the volume of streets and streetlights, and the level of support required
  - the street light administration component may have its responsibilities increased. That will increase the demands upon the program. The result will be a requirement for an additional 2 employees
  - recent demand for Sign Shop activities has been reasonably static
  - the demand for the Sign Shop's services is dependent upon the activity in other Works programs

. Key indicators of future activity levels for current programs
  - growth in the inventory of City streets, and subsequently the traffic sign, streetlight support and street inspection requirements, will impact the activity levels
  - growth in the amount of parkland will also impact the activity levels of the Sign Shop
  - the aging of the current signs will require increased levels of maintenance

. Potential program changes over the next 5 to 10 years
  - the administrative support level for streetlights will likely be increased

. Applicable policy on sourcing resources and capabilities
  - present capability determines what activities will go out or be done internally

. Other points and issues
  - the Sign Shop is, at present, in cramped facilities in the Nashdene Yard. The present space of about 2,250 sq. ft. should be increased 33% to 3,000 sq. ft.

Program: 7. Engineering Inspection

- Program segments, components, function and focus
  - review of plans and specifications for services being installed in new developments
  - inspection of construction of new sevices to ensure compliance with applicable standards
  - sample and testing of asphalt and concrete from construction sites e.g. roads and sidewalks, to ensure compliance with specifications

- Current levels of service and activity
  - personnel level of 25 full-time employees, consisting of 1 supervisor, 1 secretary, and 23 operational staff including 1 employee on temporary loan. In addition, 4 students are employed
  - activity levels include: 96,700 m of services installed (sewers, curbs, sidewalks and roads), 430 manholes, 380 catchbasins, and 800 house connections

- Location of service consumption
  - service consumption is required wherever there is new construction within the City
  - recent activity has been mainly in the northern part of the City

- Characteristics of program demand and their implications
  - demand for service has been reducing in the recent past

- Key indictors of future activity levels for current programs
  - changes in the amount of subdivision, sidewalk and road development within the City has an impact on the program's activity levels

- Potential program changes over the next 5 to 10 years
  - no significant changes

- Applicable policy on sourcing resources and capabilities
  - current staff handle all the requirements

- Other points and issues
  - nothing of significance

APPENDIX B2

RECREATION AND PARKS

Programs

1. Parks Maintenance
2. Special Duties Support
3. Horticulture
4. Forestry
5. Parks Shop Support
6. Concessions

APPENDIX B2

RECREATION AND PARKS

Program: 1. Parks Maintenance

. Program segments, components, function and focus

Parks Maintenance covers general groundskeeping activities such as:

- grass cutting, fertilizing, aerifying and top dressing, weed spraying, ground restoration both major and minor, watering, raking, gilling, lining and maintaining all sports fields, maintenance of playground and pathway surfaces, sanitation, setting up, flooding and dismantling natural ice rinks, maintaining three large natural rinks, show removal and related, removing litter and garbage, resetting curbs, repairing potholes and cracks, installing and removing snow fencing, and clearing and cleaning catchbasins.

Responsibility for program operations is divided geographically between 2 Superintendents. Each Superintendent's area is subdivided into zones. Areas I and II have four and three zones respectively. In addition to their Parks Maintenance program responsibilities, the Superintendents look after other programs, one, Special Duties and Parks Shop Support and the other Horticulture and Forestry.

. Current levels of service and activity

In general terms, service is provided to standards agreed by Council. For example, grass is cut about "X" times per growing season, where "X" varies with park usage. Further details on frequencies are given below. Other factors that impact service levels are the need to meet recreation program schedules, seasonal weather fluctuations and perceptions of amenity expected by park users.

More specifically, the service levels for the main activities are:

- Mowing grass - each park is assessed a letter code for its usage/attention level which reflects the following requirements

Code Level	Cuts Per Season
A	25
B	20
C	15
D	10
E	5 and less

- Fertilizing grass - once per year on average
- Spraying weeds - once per year on average
- Watering - as required
- Controlling litter - prior to mowing or as required
- Reseeding/restoring grass - as necessary
- Clearing snow - per snowfall (22 times on average per season quoted)

Some 2,000 acres - comprised of different types of parks, open spaces and outdoor facilities - are maintained by seven area crews, each with its foreman and five to twelve crew members. Over the summer months, the total strength of 61 permanent staff (including the foremen) is augmented by approximately 100 temporary employees (mainly students and casual workers). They are engaged primarily for grass cutting.

For the three to four winter months, a night shift crew (11 strong) based at Birchmount Yard is maintained to provide the required response for snow removal and related activities with Fire Halls, Civic Centre, Community Centres, etc. being the priority for attention.

The distribution of Parks Maintenance manpower (including supervision) is as follows:

Area or Zone	Crew Size	Base Yard	Controlling Yard
NW	8	B	B
N	8	B	B
NE	6	N	N
E	9	H	N
C	13	T	N
S	9	BR	N
SW	8	BR	B
All	61	-	-

. Location of service consumption and customers

Work is performed at the various park/facility sites. The work crews are based at the five existing yards, which hold tools, portable equipment and materials together with vehicle parking and mobile equipment storage space. Apart from their contribution to Capital Budget work, the crews' work is predominantly internally generated.

. Characteristics of program demand and their implications

Program demand is influenced by a variety of factors. The main ones are the levels of service (i.e. frequencies of activities plus quality) being provided, the growth in parkland acquisition, the intensity of development of the facilities within the existing parks portfolio, park user behaviour and the seasonal and random influences of weather conditions.

In 1986/87, approximately 58 hectares of additional land were added to the aggregate area that has to be maintained. The movement in inventory (in hectares of land) over the past six years has been as follows:

Year	1981	1982	1983	1984	1985	1986/87
Total	807	835	844	848	854	912
Addition	35	28	8	4	6	58

The growth in 1986 is considered unusual and the trend of 2 to 3% increase per annum over the past few years would be more representative of future growth. Considering just the growth in "pure" parks, the growth has been only 1 to 2% per year - as the numbers below demonstrate.

Year	1981	1982	1983	1984	1985	1986/87
Total	614	640	649	653	655	659

Knowing the service levels to be delivered, the program workload is reasonably predictable. Forward planning is basically incremental with overlays of non-routine activities from short term development projects. From year to year however, workloads can be affected by adverse weather, e.g. prolonged wet or dry spells. If this happens, planned renovation and project work can either be held over or accelerated according to the need for workload and crew capacity balancing. Severe weather can lead to more maintenance activities than expected.

The perceived ever increasing public interest in recreation programs leads to park redevelopment which can have a corresponding impact on maintenance requirements.

Seasonal variations are significant because many outdoor maintenance activities are curtailed in the winter months. When required, snow removal takes priority. Other important winter work is assisting to maintain park furniture and outdoor recreation equipment along with servicing all the equipment used over the summer season. The major portion of the Parks pool of equipment is related to growing season operations.

. Key indicators of future activity levels for current programs

Incremental growth in the parkland inventory has already been discussed. The big unknown factor as regards aggregate inventory size is how the northeast of the City may be developed over the next five to ten years.

Park redevelopment in the southwest quadrant of the City may also increase the parkland inventory. More importantly, improving the quality of parks in this area is expected to increase the intensity of maintenance attention and care, if the same standards of amenity and appearance currently defined are to be sustained.

From an overall perspective, apart from the position in the northeast, new park development is slowing and upgrading existing parks taking its place.

Current budget projections for the near term call for the same staffing levels as at present augmented by four approved (but yet unfilled) park attendant positions. Should public pressure of parks' usage (or for upgrading to prevent deterioration, etc.) indicate that the existing service levels have to be increased, it is recognized that staffing (permanent plus temporary) may have to grow faster than expected.

Current forecasts are based on the assumption that an annual 3% increase in manpower will meet the anticipated growth in service demands.

- Potential program changes over the next 5 to 10 years

No significant innovative changes in the scope of Parks Maintenance activities are forecast. The change from new parks to existing park redevelopment may have some input in the mix of maintenance requirements. For example, the level of complexity and changes in usage intensity may indicate the existing service levels have to be upgraded.

The evolution of the northeast sector of the City is the big unknown. However, there is flexibility on this issue as maintenance requirements can always be incorporated within any development.

- Applicable policy on sourcing resources and capabilities

Current policy is to maintain existing staff levels. Additional workload requirements will be met, as far as is practical, by contracting out and/or using temporary staff (casuals and students).

The existing policy on rated vehicle rental through the Maintenance and Construction Department appears to be causing some problems. Target utilization levels for vans, trucks, etc. may be set arbitrarily and may create a disincentive for the efficient use on the basis that additional "payment" is required for hours of use above or below the target.

In addition, certain pieces of equipment such as grass cutting and rolling units used only by Parks Maintenance need not be rated.

Much of the working equipment used by the area maintenance crews is stored outside, and suffers considerable deterioration, particularly over the winter months.

. Other points and issues

Heron Park Yard is considered obsolete for effective and efficient service delivery due to size, condition and its buildings and its location.

Plans are underway to establish limited computer communications at each yard base as part of the implementation of the maintenance management information system already discussed.

A Parks Maintenance Management Information System is currently being used to record work activities by type and facility. It is intended to use the data established as the basis for future projections of staff person hour requirements. At present, this is not possible as the system has limited history.

Travel time to and from the existing yards to work locations, and to neighbouring yards for materials and supplies is a major concern. As an example of the second point, the crews at Heron Park and Thomson Park fetch granular materials from Morningside and Ellesmere.

Future satellite locations have been proposed in L'Amoreaux Park.

Currently, Recreation and Parks is preparing a Master Plan. Some of its thrusts are concerned with

- more horticulture in parks
- trail and linear park networks
- more washrooms in facilities
- better quality natural ice surfaces

These thrusts may or may not impact on Parks Division resources depending on their substantiation as "real" need and policy adopted by the City. While they would generally increase resources requirements upwards, ceteris paribus, this may be in just incremental terms. At this point in time, no attempt has been made to quantify Master Plan impacts.

Program: 2. Special Duties Support

. Program segments, components, function and focus

Special duties encompass the construction, installation, maintenance and removal of all park furniture and outdoor recreation equipment. Examples of park furniture include benches, fencing, gates, bollards, wooden and steel signs, metal railings, irrigation lines, water chambers and drinking fountais. Outdoor recreation equipment covers soccer and football goal posts, some aspects of natural ice rinks, spectators bleachers, player benches, playground apparatus, backstops, picnic shelters, and similar items.

The program is delivered across the City by two crews based under one foreman at Birchmount Yard. Support is provided to the area maintenance crews, seasonal recreation programs and capital budget projects being implemented by the Parks Planning and Development Group. Keeping all outdoor recreation equipment in safe and satisfactory condition is a key concern.

. Current levels of service and activity

Different program components have different service levels. An example is the safety inspection of the four or five items of playground equipment in each park (in total there are more than 200 parks). Further details are given below. Other components are seasonally driven or directly tied to a recreation program offering. The principal activity service levels are follows:

- Park furniture
  - paint once per year
  - repair when required
- Irrigation systems
  - start-up in the spring and blow out in the fall
- Pathways
  - repair as conditions requires
- Playground equipment
  - inspect weekly/when staff at location
  - paint annually/as required by condition
  - repair when condition dictates
- Fencing, bridges, backstops, etc. - repair as necessary

The special duties crew currently has a staffing level of 13 (including supervision).

. Location of service consumption and customers

Work sites can arise anywhere in the City's parks, the crew base yard or on playground areas shared with the Board of Education.

. Characteristics of program demand and their implications

An estimated 60% of the crew effort is self generated with the balance being split between being supplied on demand to area foremen and being spent on capital budget items. A small amount is done for other departments like Works.

There is a marked seasonal pattern in demand and workload. In winter the emphasis is on renovating park furniture and recreation equipment at the crew's base in Birchmount Yard.

. Key indicators of future activity levels

The points made under this heading for the Parks Maintenance Program apply. As the level of complexity of maintenance increases through the focus on redevelopment, the program demands here may increase relatively more than those for grounds maintenance. To counteract this, the gradual replacement of all wooden park furniture and playground equipment with metal equivalents should reduce activity volumes. An increase of one permanent staff member for irrigation work is being proposed in the 1988 Budget.

. Potential program changes over the next (5) to (10) years

Nothing major is anticipated. However, irrigation systems inventory in place is increasing. Also, changes in adult recreation demands can generate higher activity levels for Special Duties. Finally, increased awareness of safety matters tends to put pressure on inspection frequencies.

. Applicable policy on sourcing resources and capabilities

The same comments made under this heading for Program 1 apply. Past attempts to contract out welding work are reported to have met very little interest from potential suppliers.

. Other points and issues

Appropriate methods for equipment and materials storage need to be available.

Welding, painting and rough carpentry are performed in unsatisfactory shop conditions.

Program: 3. Horticulture

. Program segments, components, function and focus

Horticulture covers planting and maintenance of floral and shrub displays in and around City properties, parks and boulevards.

The Horticulture program also covers park development activities including work associated with grading and landscaping. Tree planting in parks can sometimes be involved.

. Current levels of service and activity

Flower beds are prepared three times per season and cultivated ten times per season. Shrub beds are prepared once and cultivated five times per season.

One crew of 14 men operate from the Nashdene Yard. On additional gardener is permanently stationed at the Civic Centre and another is located at Thomson Park.

Existing budget approvals cover current work requirements, with some limited catch-up work on outstanding planned projects, e.g. park development.

. Location of service consumption and customers

At Civic properties, facilities and parks.

. Characteristics of program demand and their implications

The existing program is based on maintaining the prevailing service levels and hence current man years for existing parks and square metre areas of flower beds.

. Key indicators of future activity levels for current programs

Horticulture is highly labour intensive and efforts are in hand to dilute existing floral displays by planting additional trees and shrubs, particularly when existing parks are being redeveloped. New or more floral displays in parks could require increases in staff levels.

. Potential program changes over the next (5) to (10) years

No major changes are anticipated in the basic programs, but R&P Department Master Plan implementation may require increased resources.

. Applicable policy on sourcing resources and capabilities

Contracting out is not allowed to affect existing permanent staff but permanent staff increases are being kept to a minimum, supported by part-time seasonal help and contractors. On the other hand, available qualified horticulture contractor resources are in limited supply owing to the specialist nature of the work.

. Other points and issues

None of significance were noted.

Program: 4. Forestry

. Program segments, components, function and focus

Forestry involves small and large tree planting, transplanting, pruning, watering, inspection, removal and general maintenance together with stump removal. Trees can be located on any City facilities, in parks, on road allowances and residential boulevards. The program is under the direction of the Area I Superintendent. It is delivered across the City from a base at Nashdene Yard. The main focus is on the 20% of trees in the City placed along boulevards and roads.

. Current levels of service and activity

An estimated 50% of program resources are expected in response to request for service arising from the public. The other half is spent on the normal service cycle of pruning, spraying, fertilizing, watering, replacing, etc. that is in operation with particular emphasis on boulevard and residential trees. An individual tree would be covered in the service cycle it is estimated once every 10 years. In 1988, the intent is to be able to handle a seven year cycle.

Two forestry crews, totalling 18 personnel (including one foreman and one clerk/secretary) operate out of the Nashdene Yard. Starting about four years ago, some work has also been contracted out on street tree maintenance. It amounts to about two to three person years per annum. Currently, there is a growing backlog of work connected with the city wide tree review and maintenance component of the program.

. Location of service consumption and customers

As noted in the preceding section, the general public initiate a significant volume of service requests/work orders for the forestry crews. Work sites are distributed across the City on all City owned properties, parks, road allowances on street and boulevards. The exceptions are water courses where Works Department have the responsibility and contract out the associated forestry related work. Works are also responsible for pruning to clear street signs. (N.B. Scarborough PUC also looks after its own tree trimming needs). A forestry holding nursery is also maintained at Nashdene.

. Characteristics of program demand and their implications

Service requests from the general public are variable but have shown an increasing trend. Self generated demand is based on the service levels that can be delivered by the existing staff together with the continuation of contracting out street tree maintenance. Currently, the contracting out is costing about $148,000. Priority is given to meeting externally generated service requests.

. Key indicators of future activity levels for current programs

The aging of trees in the City (and acid rain?) will likely increase the workload in the program if existing levels of service are to be maintained. It is felt that contractors will likely be unable to handle everything that may be required and that more permanent staff could be needed. However, temporary assistance of short term duration is probably available from other Parks Division crews. Two new arborist positions are being proposed for 1988.

. Potential program changes over the next 5 to 10 years

No major initiatives are foreseen at this point in time. Rather, the level of activities in traditional program components are anticipated to increase with trees aging across the City, new parkland acquisitions and existing parkland redevelopments. The aim is for a five year cycle for each tree by 1990. An afforestation program at Milliken is also going to be implemented.

. Applicable policy on sourcing resources and capabilities

Keeping permanent staff increases to a minimum is the intent along with the continued use of part-time seasonal help and contractors. Due to the specialist nature of arborist work, it is felt that there is only a limited availability of qualified contractors. The two permanent staff arborist position proposed for 1988 have already been discussed.

. Other points and issues

Continuing implementation of the proposed plan to review all trees in the City over a five year period may be difficult to achieve if the volume of demand from public requests for service keeps growing.

Program: 5. Parks Shop

. Program segments, components, function and focus

The Parks Shop is a support unit for the Parks Division, providing small equipment and tool repair, stock and supplies, manufacture and repair of playground and recreational equipment and sign manufacturing. Capabilities include limited carpentry, painting and welding in addition to bench repair (small engines-mowers, etc.) facilities.

- Current levels of service and activity

  Single shift, plus ovetime as required. Shop Foreman plus 12 personnel - office, clerks, stores, mechanics.

- Location of service consumption and customers

  Birchmount Park Shop, 101 Ridgetop Road. The shop provides services for all parks maintenance operations plus limited work for Ellesmere Road, e.g. with welding.

- Characteristics of program demand and their implications

  Demand arises from ongoing parks maintenance activities plus park development work. Parks Shop provides direct maintenance support for summer and winter parks programs.

- Key indicators of future activity levels for current programs

  Future activity levels will be influenced by the acquisition and development of parklands, particularly in the northeast area of the City. Increased inventory of parkland will induce increased inventory of vehicles and equipment.

- Potential program changes over the next 5 to 10 years

  No fundamental changes are envisaged in the types of support activities available at the Parks Shop.

- Applicable policy on sourcing resources and capabilities

  Existing resources are replenished from the private sector, usually by hiring well experienced mechanics and tradesmen, e.g. auto mechanics. Some limited contracting-out of welding work has been attempted, but with unsatisfactory results in terms of service and contractor relationships.

. Other points and issues

A proposal for a new Parks Shop building to provide improved accommodation for welding and painting in particular, and for general use has been suspended due to the City Yards Study. In addition to improving conditions, there is concern over the adequacy of Birchmount Yard to house growth.

It is also noted that the Concessions Program is based on the current Parks Shop building.

Traditionally, the Parks Shop has dealt with equipment that has air cooled engines. It tends to operate on a "mini-fleet" concept with all the equipment used for parks maintenance work.

Chemicals storage and new hazardous materials regulations need to be reconciled.

Similarity of some activities with certain aspects of Maintenance and Construction activities have been recognized.

There may be some similarity in the sign activities of Parks Shop and Transportation/Sign Shop.

Program: 6. Concessions

. Program segments, components, function and focus

The Concessions operations are the responsibility of the R&P Administrative Division and cover three principal areas:

- snack bar support (12 snack bars)
- vending machines (all vending machines located on City properties at 4 separate locations)
- catering operations (for functions taking place on City properties, i.e. in any of 10 halls)

. Current levels of service and activity

Activity levels are high and increasing. Service levels are also considered high, currently requiring high volumes of overtime by each of the limited staff.

Services are provided by the following staff:

- Concessions Superintendent
- Secretary
- 2 full-time staff (includes 1 chef)
- 2 part-time staff (assisting at catering functions)

Over the past 12 years of its operations, Concessions has maintained the same staff levels and worked out of the same office/storage facilities.

. Location of service consumption and customers

The main 26 service locations, distributed throughout the City, are quantified above.

. Characteristics of program demand and their implications

Snack bars - from central warehousing at the Brichmount Yard, Concessions maintains a food delivery service to all snack bars.

Vending machines - collect cash from all vending machines and fill up unsupervised machines.

Catering - deal directly with the public on orders for function catering; coordinate staff to service function, including part-time staff; delivery and prepare food at hall locations; and supervise function catering service delivery.

All the above activities require the central support of food purchasing, storage and delivery. Supplies and delivery is maintained by two 1/2-3/4 ton vans, stored at Birchmount Yard.

Additional transportation is provided by the Superintendent using his personal vehicle.

- Key indicators of future activity levels for current programs

Concessions programs have grown from approximately $250,000 to $1,200,000 over the past 12 years. Various shifts have occurred in the types of catering provided and the requirement for compulsory City catering but there remains a continuous increasing demand for this service. Catering is considered profitable, while remaining very competitive and is currently well supported by Council.

The current Capital Development Plan includes the potential addition of five to six major recreation facilities. These additions will likely have a large impact on all existing service demand levels.

- Potential program changes over the next (5) to (10 years

Consideration is being given to increasing the variety of food catered to meet the growing demand for various ethnic meals.

- Applicable policy on sourcing resources and capabilities

Current practice is to operate within the existing staff capabilities. This policy results in excessive personal overtime on the part of the Superintendent and the two permanent staff, in excess of 300 hours each per year.

The growing seniority of the Concessions staff is resulting in increasing vacation entitlements, which in turn places greater demand for additional staff to avoid further excessive overtime.

. Other points and issues

Taking into account the increasing demand levels for all services and the limited food preparation facilities (only three of the ten existing halls have major kitchen facilities), it is considered that central food preparation facilities, including equipment for ethnic food preparation, would provide a more economic and efficient base for operations.

The existing office and storage facilities at Birchmount Yard are at maximum capacity and do not support efficient operations. The storage area is not purpose designed, has no truck docking, has inadequate doors and only has a seven to eight foot headroom.

Geographic location is not seen as a problem for the office/storage facilities provided that it is reasonably central. Outside storage for vehicles is also not considered a problem.

Improved facilities for the public to arrange functions is seen as desirable, e.g. waiting room and display areas.

An "ideal" space draft layout for a concession operation was prepared in 1982.

APPENDIX B3

MAINTENANCE AND CONSTRUCTION

Programs

1. Vehicle and equipment fleet management
2. Physical plant operations, caretaking, security and fire and safety systems
3. Buildings' portfolio maintenance
4. New buildings/facility delivery and technical support for operations, maintenance, construction and performance improvements
5. Internal and other support

APPENDIX B3

MAINTENANCE AND CONSTRUCTION

Program: 1. Vehicle and Equipment Fleet

. Program segments, components, function and focus

- inspection, troubleshooting, remove and replace maintenance operations
- servicing (fuelling, lubrication, washing and cleaning)
- technical and administration support, e.g. on acquisition, disposal, equipment records, operator/driver training, maintenance planning
- contracting major systems and components repair and overhaul (e.g. engines, radiators, suspension items, body work, transmissions etc.) and special requirements like welding work
- life cycle ownership focus

. Current levels of service and activity

- one shift with a skeleton crew on afternoon and call-out as required
- fleet of 730 items (with approximately 70/30 vehicle/equipment split) with prime mover percentage for diesel gasoline and propane 40-50%/40-30%/20-15%
- programmed maintenance approach driven by usage (time or distance) with P.M. orders instigated and item scheduling performed by planning staff
- majority of fleet items assigned to just one user on a "permanent" basis
- user responsible for servicing (except lubrication). Fuel diesel, unleaded and regular gas) is available at five loctions and washing facilities (two pressurized and two not) exist at four. Propane is supplied only at Ellesmere and Morningside.
- with planned/scheduled maintenance, the aim is to carry out some work on a vehicle every 6,000 km. The cycle is at:
  . 6,000 do an "A" service (oiling, greasing basically)
  . 12,000 do an "A" service
  . 18,000 do a "B" service

"A" services take a cople of hours at the most and are done in the evenings. "B" services are comprehensive and depending on the vehicle, take much longer. Exchange units from the pool of spare units are used by operators when an allocated unit is undergoing a "B" service. "Seasonals" are also performed on things like sweepers and ice resurfacers

- fleet vehicles travel an average of 20,000 km per year. Small units can range from 25,000 to 30,000 and garbage packers only 15,000 to 16,000. With the latter, time running is more important than distance. On average, a vehicle's loss of availability is approximately 10%

- on a percentage jobs basis, the split between planned/scheduled maintennce and unscheduled work is roughly 50/50

. Location of service consumption and customers

- quartering (i.e. overnight parking etc.) generally at user operating base but also at central location

- servicing (except lubrication with just one) is undertaken at four locations for cleaning and five for fuelling. Wash days are allocated to user departments at Ellesmere and Nashdene

- all other services consumed centrally at the Ellesmere Yard except for on road/breakdown work (a very small percentage estimated at less than 2%) and starting problems which can be as high at 10-12% on a bad winter day

- users are predominantly in Public Works (with an estimated 50% of all items) and Recreation and Parks (with approximately 30% of all items)

. Characteristics of program demand and their implications

- with known levels of user department activity and seasonal preparation, the program workload is reasonably predictable

- user operators/drivers report defects and problems encountered through daily log sheets. Approximately eight to ten requests for attention can be received on any day. This can represent a reasonable portion of a day's total maintenance effort

- seasonal variations are evident due to user department programs, e.g. some vehicles and equipment are used only in winter conditions or only in summer

. Key indicators of future activity levels for current programs

- rate of growth in the size of fleet (2 to 2-1/2% in financial investment terms) estimated to be 205 maximum over the next ten years

- changes in fleet mix by type and in type capabilities, e.g. if high density packers are purchased maximum fleet growth estimated at 10%

- fleet item usage rates, although historically they have not varied very much

- user department expansion of their existing programs, which may expand for example, in line with population growth and whether or not program delivery mix between internal and external resource shifts (City trend is towards more contracting)

- Potential program changes over the next 5 to 10 years

  - nothing major, rather incremental growth in line with fleet expansion

  - enhancement of existing capability, e.g. in vehicle washing, acquiring up-to-date diagnostic equipment

  - potentially augmenting in-house capability in areas of welding, painting, minor body work (bumps and dents) and transmission systems

  - moving away from a "remove and replace" shop will likely take place first in the engine/prime mover maintenance area if acquiring the capability can be justified (see page 7 for preliminary data)

  - procedures for vehicle washing might become more formalized, e.g. say all vehicles must be washed down at least once per week

  - assuming responsibility for R&P small equipment maintenance is a possibility, e.g. grass cutting equipment kept at Birchmount

- Applicable policy on sourcing resources and capabilities

  - existing capability dictates what has to go outside/be contracted

  - volumes/frequency of occurrence of need for special capabilities underwrite the economics of in-house/external sourcing decision

  - item replacement planning, acquisitions and commissioning is an ongoing activity which stablilizes fleet item average age

- current practice is to run the garage with a separate maintenance bay for each mechanic

- the old rule of thumb of one mechanic for every 30 odd pieces of equipment was discredited by a study undertaken last year. As a result, substantial growth in fleet size can still be handled by the existing staff of 18 mechanics

- initiatives are underway to upgrade information systems support. Implementation may result in incremental permanent staff additions

. Other points and issues

- users undertaking maintenance of (a) small equipment both rated and non-rated and (b) other rated equipment permanently allocated

- covered or open storage quarters for vehicles and, if open, on paved or unpaved areas

- viability of proposed in-house capability enhancements

- seasonal equipment bays (beside the tire shop) may have to be extended as equipment fleet expands and/or existing responsibilities for R&P seasonal equipment maintenance is reassigned

- the latest extension of the garage (the northeast wing) was built to match the maintenance requirements of Fire Department vehicles. The existing bays have therefore a mix of available working space envelopes. In the main garage area, the ceiling is too low to accommodate all vehicle types

- the existing facility was not custom designed for its function. A better arrangement from the operational viewpoint is the angle bay configuration with central uni-directional access and solid exterior walls

- plans are in process to equip more of the existing bays with hoists

- the benefits and advantages of charging users an hourly rate versus a flat rate for "permanently" assigned vehicles and equipment is unclear

- there is some concern over whether or not fuel handling and storage facilities comply with applicable legislation/regulations

Vehicle and Equipment Item Fleet Allocations

User Department or Organization	Vehicles	Items of Equipment
Library	5	
Purchasing/Stores	3	
Animal Control	4	
Fire	44	
M&C		
- fleet spare units at Ellesmere	21	
- fleet operations	14	2
- building maintenance and physical plant (split 37/21)	58	
Recreation and Parks	116	93
Works		
- street operations	126	92
- sanitation	69	
- transportation	8	
- waste water	33	38
- other	4	
	505	225
Total items in fleet	730	

Source: Computer listings of vehicle and equipment items supplied by the Manager, Fleet Administration as of September 1987

Approximate Distribution of the Purchases of Automobile/Vehicle Repair Services (Based on 1986 Data)

Based on information supplied by Central Stores, the total purchases were approximately $300,000. The total was distributed across the following principal areas.

Item	Percentage
Springs	12
Rear ends	21
Transmission repairs	4
Engine work	16
Body work repairs	22
Drive lines	2
Welding work	23

Notes:

1. It is suspected that the body work repairs have been overstated through the inclusion of orders involved with recoverable/insurance related repairs

2. The welding is that exclusively associated with vehicles and does not include other M&C contributions.

3. Source: Central Stores.

Program: 2. Physical Plant Operations

. Program segments, components, function and focus

- Arena operations
- Caretaking
- Security
- Fire and safety systems maintenance
- Buildings/facilities P.M. planning and scheduling

. Current levels of service and activity

- of 11 arenas, 6 are open 33 weeks (3 locations contractor run, 3 manned by own personnel), and the rest all year

- caretaking and cleaning is provided for all City buildings (except those in parks principally by contractors (the Civic Centre is the exception)

- security is routinely provided through contractors at the Civic Centre and Ellesmere Yard and wherever "tenants" request it, e.g. at pools, plant nursery, etc.

- fire and safety systems maintenance is programmed and system/system component inspection scheduled up to three times per year (as appropriate) using contractors

. Location of service consumption and customers

- service consumption is distributed mainly throughout the City within the portfolio of M&C's buildings and facilities

- dominant customers are R&P and Public Works and Civic Centre

- street furniture connected with safety systems (e.g. fire hydrants) are also widely spread across the City

. Characteristics of program demand and their implications

- demand is highly predictable as most services provided are of a repetitive and routine nature

- seasonal influences are present, e.g. in arena operations, and may affect quartering/assembly arrangements for the summer months

- caretaking in some facilities occupied by R&P includees supporting R&P programs as required

- nature of program means that their delivery is open on an equal footing to either internal or external sourcing

- yard needs in the main only involve quartering and housing some personnel and vehicles because the facilities supported general contain adequate working space for program delivery

. Key indicators of future activity levels for current programs

- growth in the portfolio of City buildings and facilities

- rate of development of the City, i.e. for increases in the fire hydrant population

. Potential program changes over the next 5 to 10 years

- none of any significance envisaged
- new responsibilities not anticipated

. Applicable policy on sourcing resources and capabilities

- success with contracting in each program component has resulted in a preference for contract sourcing

- contractors may be retained on different terms, e.g. City supplying yard and other operating space, City supplies vehicles and equipment on occasion, etc.

- growth in retaining contractors

. Other points and issues

- yard support to program is basically administrative and for assembly and quartering staff/contractors not allocated permanently to a single facility

Program: 3. Building Maintenance

. Program segments, components, function and focus

- HVAC and mechanical systems
- plumbing
- structural (carpentry, masonry work, painting, roof repair, etc.)
- electrical
- small job focus in response to tenant demand and to conservation maintenance needs; specialist functions contracted

. Current levels of service and activity

- over 85% of current activity (by number of jobs) urgent, preventive, customer demand or conservation maintenance related (approximately 65% by cost)

- contractors provided approximately 12% of total manhours worked with painting, electrical work, carpentry work and roofing repairs accounting for the majority of it

. Location of service consumption and customers

- primarily in user occupied buildings and facilities across the City

- some work (most carpentry, a little electrical repair, painting, welding, etc.) performed in shop conditions

. Characteristics of program demand and their implications

- service requests (often for faults, defects and small repairs) received at random
- routine tasks from building users also received at random

- low volume specialist repair tasks best contracted

- balancing workload has to be accomplished by undertaking minor construction and/or using contractors or service contracts

- program of planned and scheduled preventive maintenance actions under development

. Key indicators of future activity levels for current programs

- growth of buildings and facilities portfolio (see Page 13)

- replacement value of portfolio

- growth in volume of service requisitions originated by buildings users

. Potential program changes over the next 5 to 10 years

- no major changes foreseen, only incremental growth

. Applicable policy on sourcing resources and capabilities

- use of contracors potentially limited by existing agreement with CUPE local
- permanent staffing would only be increased as a last resort
- enhancing skill mix of in-house workforce to continue

. Other points and issues

- welding shop viability
- painting shop viability
- see page 14 for preliminary data

POTENTIAL ADDITIONS TO THE PORTFOLIO OF BUILDINGS AND FACILITIES OVER THE NEXT TEN YEARS

No.	Sponsoring Dept.	Description of Building/Facility	Proposed Area	Cost
1	Recreation & Parks	Oakridge Community Centre	19	3.5
2	"	Centennial Rec. Complex-Phase III	15	2.8
3	"	Aquatic Centre	167	35
4	"	Milliken Fieldhouse	1.2	0.3
5	"	East Point Fieldhouse	4.0	1.5
6	"	L'Anoreaux Community Centre	80	10.0
7	"	Port Union - double indoor ice surface	62	5.2
8	"	Indoor Tennis Facility No. 2	47	4.1
9	"	Scarborough Village - theatre expansion	8	1.1
10	"	Scarborough Vilalge - 2nd ice surface	25	2.2
11	"	Agincourt Lawn Bowling	2.0	0.4
12	"	Seniors Centre	9	1.5
13	Fire	New Fire Hall	5.0	1.0
14	Buildings	Animal Centr - replaced and expanded	12.0	2.3
15	Not Appropriate	Cultural Centre	82	20.0
16	Not appropriate	Civic Centre addition (equivalent to space occupied by the Board of Education)	100	22.0

Notes:

(a) Area and costs quoted are first order estimates in thousands of square feet and millions of 1987 dollars.

(b) A potential replacement for Upton Yard and the additional building at Birchmount (9,700 sq.ft. costing $0.5 million) have not been included because they are currently under review as part of this study.

(c) Source of the above data was the rolling 5 year capital budget and discussions with M&C's Director of Design and Construction.

(d) The probability of all 16 portfolio additions (involving an estimated 627,200 sq.ft. and $111 million over 10 years) being built is put at not higher than 0.5.

Approximate Distribution of Service Contracts for Building Maintenance Trades and Related Activities (Based on 1986 Data)

The total relevant expenditures were approximately $840,000. It was distributed as follows:

Description	Percentage
Civil work - roof inspection and repair (@ 10%) lock and door repairs and replacement, caulking, glazing and painting (@ 21%)	39
Electrical work - motor, transformer, and electronic system inspection and repair; electrical contracting (@ 23%) for e.g. lighting installation or minor project work, emergency lighting PM	29
Mechanical work - welding (@ 6%), plumbing (@ 9%) and HVAC (@ 11%)	26
Overhead door maintenance	6

While the above expenditure items mainly cover both labour and materials, e.g. electrical contracting, others such as painting are only for labour. It should also be appreciated that some items are primarily just for materials. The above figures therefore need to be interpreted with some reservations when consideration is given to the internal/external sourcing decision.

Program: 4. Buildings Delivery and Technical Support

. Program segments, components, function and focus

- project management (design, estimate, schedule, procure, build, etc.)
- corporate capital budget (buildings and facilities)
- technical performance, e.g. energy consumption of existing portfolio
- focus is to handle small projects in-house (except for build activity onwards) and contact most of the total effort on their larger ones

. Current levels of service and activity

- activity is project oriented and no akin to the provision of routine services
- service level in the sense of project duration/lead time is varied by using engineering consultants and architects with increases in workload
- technical expertise contributed to all maintenance projects on requests as required

. Location of service consumption and customers

- customers are (a) all City departments requiring housing, housing modifications and new facilities (b) own department as regard the technical qulaity and performacne of the existing portfolio
- services are consumed in or coordinated through one location, i.e. the M&C Department offices at the Ellesmere Yard

. Characteristics of program demand and their implications

- highly variable as it is a mix of new and replacement projects

- small staff can be evenly loaded if workload peaks and larger projects are carried out with outside assistance from consulting engineering and architects

. Key indicators of future activity levels for current programs

- number and size of projects in five year capital budgets for both replacement within and additions to existing buildings/facilities portfolio

. Potential program changes over the next 5 to 10 years

- maintenance/conservation project workload expected to increase as facilities and buildings age

. Applicable policy on sourcing resources and capabilities

- major design and specialist technical advice obtained from engineering consultants and architects as required

- existing staffing levels and capabilities expected to be maintained with increased workload handled by retaining consulting services

. Other points and issues

- existing office space allocation viewed as adequate and includes some slack for seasonal manpower, i.e. students

- program resources do not necessarily have to be based in a yard but internal departmental communication is improved if they are colocated with management and administration group

. Program segments, components, function and focus

- management and general administration
- communications
- weigh scale service

. Current levels of service and activity

- communications service provided 24 hours, 7 days per week

- weigh scale service available on a 5 days per week in summer and 24 hours per day, 7 days per week, in winter (mid-November to April 1st)

. Location of service consumption and customers

- first two sub-programs consumed centrally/internally

- weigh scale service available at four yeards (E,N,M,U)

- weigh scale customers are primarily Public Works Street Operations but R&P, Metro Roads, etc. also use services along with contractors assisting with program delivery

. Characteristics of program demand and their implications

- communications system must be always available irrespective of level of demand

Program: 5. Internal and Other Support

. Key indicators of future activity levels for current programs

- number of yards in operation with bulk storage (for weigh scale services)

. Potential program changes over the next 5 to 10 years

- nothing major envisaged that will increase resource requirements

- reductions in weigh scale service may be possible

. Applicable policy on sourcing resources and capabilities

- weigh scale service is manned inter-departmentally by M&C and Public Works Street Operations.

. Other points and issues

- rationale for maintaining weigh scale service

- possibility of combining weigh scale operation with fuelling

- program first component does not necessarily have to be located in yard although some bits of it are more effective (e.g. support to BMD) if they are colocated with yard groups

APPENDIX B4

TREASURY

Program Central Stores

APPENDIX B4

TREASURY

Program: Central Stores

. Program segments, components, function and focus

- receiving stock and non-stock item deliveries

- physical storage and issue of stock items together with associated minor operations like cutting key blanks and standard stock material to issued length, assembly hydraulic hoses, etc.

- physical storage of expensed items (i.e. non-stock) in cases where users housing arrangements have limited space

- inventory management (but not physical control and security) of granular material at Ellesmere and all materials held in, or at, other City premises or yards

. Current levels of service and activity

- the stores make issues from 0700 to 2350, five days per week

- outside normal hours the stores are locked and callout (mainly for Public Works winter equipment) is provided

- approximately 5,000 SKU are inventory items with a 50/50 general stores/auto and vehicle split. About 100 of these items are stored externally and of those around, 20 are for granular material

- issued items are not delivered. Typically users pick up their own material; alternatively, distribution can be arranged by stores with M&C delivery. An estimated 80% of individual users drive to Ellesmere

- daily processing of all transactions involved with stock items held locally by users (the paperwork is turned in daily)

. Characteristics of program demand and their implications

- all City departments and the Library are users

- being co-located beside the vehicle and equipment maintenance garage is important

- tools are stock items but only for issue

- users maintain tool cribs for loanable items and return some items for stores to arrange reconditioning, e.g. resharpening saws

. Key indicators of future activity levels for current programs

- trend of number of SKU in inventory (currently gradually declining)

- changes (i) in the level of issues between 3:30 and 11:30 p.m. (e.g. should keeping the stores open on the afternoon shift be continued?), and (ii) in callout experience

- reductions in the deliveries of non-stock items due to vendors being directed to ship to end user location directly

- change in volume of systems contracts and its consequences for number of SKUs in inventory

. Potential program changes over the next 5 to 10 years

- nothing major is envisaged; only fine tuning anticipated

- growth in satellite storage locations foreseen, particularly where SKU consumption occurs in only one Department or section, e.g. sign blanks storage space within the sign shop

- handling and storage of hazardous materials is under review and is likely to result in distinctive, segregated storage areas and perhaps improved handling capability. As hazardous materials are currently included in the inventory, the impact on space requirements of potential changes to improve storage and handling methods is not expected to be significant.

. Other points and issues

- existing space is viewed as more than adequate. With the gradual decline in SKU and better cube utilization, it is possible that the total space currently used for covered and outside storage could be reduced by say some 10 to 15%. Reduced requirements would apply particularly if a new facility were under consideration

- relocating the vehicle/equipment maintenance garage independently of Central Stores would cause problems as inventory supporting the garage would have to stay with the garage

- vehicle weigh scale capability is not viewed as an essential capability for an effective Central Stores program

- personnel complement is not expected to increase over the next five to ten years

APPENDIX B5

BUILDINGS

Program **Animal Care and Control**

APPENDIX B5
BUILDINGS

Program: Animal Care and Control

. Program segments, components, function and focus

- licensing of dogs
- care and treatment of impounded, injured, stray and suspected rabid indigenous and domestic animals
- community relations, education and service promotion concerned with all aspects of pet ownership
- by-law enforcement and development (really a component of first three)
- animal redemption focus

. Current levels of service and activity

- pet ownership is increasing slightly within the City but mix is changing (more cats now with approximately one in five housing units having a dog and one in three having a cat)
- licensing levels (dogs only) have been fairly static as resource allocation to this aspect reduced from past years
- centre operated on a two shift basis, five days (7:00 a.m. to 7:00 p.m.) and Saturday morning with callout on nights handled by an emergency contractor
- special services like "free ride home", "pet lost hot line", etc. promoted to public

- approximately six staff would be working in the existing centre at any one time during the day

- about 6,000 animals are handled every year

. Location of service consumption and customers

- a significant portion of all services are delivered at the centre

- wardens patrol all areas of City which is split into four geographical zones to balance workload and give fast response

- customers mainly existing and potential pet owners, and special interest groups within the community

. Characteristics of program demand and their implications

- elements are predictable (e.g. statutory licensing) although volume can fluctuate; others occur at random, and some is generated by staff in the pursuit of their routine duties, e.g. wardens pick-up/brought in ratio approximately 50/50

- demand influenced by service charges both positively and negatively

- availability and capability to respond important

- management views the operation as being in the retail business in line with focus

- Key indicators of future activity levels for current programs

  - overall growth in the City population and shifts in the housing stock mix

  - no changes in existing staffing levels are anticipated to maintain current programs

- Potential program changes over the next (5) to (10) years

  - more emphasis will be placed on community and pet owner education

  - in-house range of veterinary services to expanded and consideration given to recruiting a vet or leasing space to an indepenent

  - legislation may force city of offer additional/more comprehensive services to deal with emerging A.C. problems, e.g. cat control and dog breed initiatives

- Applicable policy on sourcing resources and capabilities

  - veterinarian services and night time emergency service currently contracted out

  - that existing capabilities and facilities are sub-standard has been well recognized and acknowledged. Capital budget approval to build a new facility has been given fiscal 87-88 for design and in fiscal 88-89 to build

- Other points and issues

  - need for centre to be located in a City yard
  - feasibility of bringing contracted veterinarian services in-house
  - central location, public transit access, building aesthetics and zoning
  - secure parking for the four animal warden vans

APPENDIX B6

PUBLIC LIBRARY

Program Administrative and Other Support

APPENDIX B6

PUBLIC LIBRARY

. Program segments, components, function and focus

The Administrative Building houses all administration and central services for 17/18 Scarborough libraries:

- Board and Executive Offices
- Public Service and Promotional
- Bookmobile Services
- Technical Control
- Data Processing
- Cataloguing
- Acquisitions
- Interlibrary Loans
- Circulation Control
- System Collection

In addition, the Administrative Building houses the Library Building maintenance staff and carpentry staff

. Current levels of service and activity

Services are provided by over 60 staff members at the Administrative Building, including 10 maintenance and carpentry people.

. Location of service consumption and customers

Administration Building plus all Scarborough Public Libraries

. Characteristics of program demand and their implications

Program demand is continuing to increase in parallel with the growth in population and language requirements

. Future activity levels and plans

Predicted future demand for Library services combined with the perceived need to increase the Board's profile have resulted in the following plans being formulated:

- in 1988, move the Maintenance group from the existing 24,500 sq. ft. building on Ellesmere to a separate location to free up 4,000 sq. ft. of space for growing other support activities

- in 1992, build an addition of 10,000 sq. ft. on to the Ellesmere building to provide more capacity for Library Support Services

- in 1995, move the Board and Executives offices and Public Service and Promotional Activities from the Ellesmere building to a new central library facility located at the Civic Centre. A decision on whether or not the new central library will be built is expected in 1988/89. The balance of Support Activities could remain at Ellesmere or be relocated virtually anywhere in the City. The move of the Board's executive offices together with related activities will free up an estimated 8,000 to 10,000 sq. ft.

. Potential program changes over the next (5) to (10) years

As described earlier, future plans call for a Central Library which would accommodate the Administrative Management activities in addition to central resource materials. The Collection Support Services may e located elsewhere but in a central location. The plan identifies a potential need for approximately 12,000 sq.ft. of these activities

. Applicable policy on sourcing resources and capabilities

The sourcing of Library staff is not under review. However, a potential merger exists for the Library Maintenance an Carpentry personnel with those of the Maintenance and Construction Department. Identified constraints to this change in service management include existing pay rate differentials and union affiliation. Library management and M&C management otherwise agree on the positive factors of such a change.

. Other points and issues

In formulating interim and longer term plans for relocation of current services, the Administration is not opposed to moving from its present location to a more appropriate building for future Collection Support Services.

APPENDIX C

SUMMARY OF EXISTING YARD FACILITY PROPERTIES

- Building and Site Areas
- Site Areas and Values
- Individual Yard Details

APPENDIX C

SUMMARY OF EXISTING YARD FACILITY PROPERTIES

Summary of Yard Structures
Building and Site Areas

Yard	No. of Structures	Agg. Area Sq. Ft.	Site Area Hectares
Birchmount	1	15,450	1.78
Ellesmere	6	158,024	9.76
Thomson Park	1	1,435	0.07
Brimley	1	2,680	0.73
Heron Park	1	2,410	0.16
Nashdene	1	24,176	4.81
Morningside	2	7,059	2.20
Upton	2	3,886	1.28
		215,120	20.79
Proposed McCowan	n/a	-	4.91

Notes:

(a) Salt domes of 7,678 sq. ft. of building area per dome have not been included at Ellesmere, Morningside or Upton yard sites (23,036 sq. ft. in total).

(b) Storage sheds have not been included in the above.

(c) Ratio of total building area to site area is (215,120 + 23,034)/(20.79 + 107,640) i.e. 1 to 9.4.

(d) The proposed McCowan Yard site area will probably be reduced by 0.61 hectares for road widening.

(e) The fully loaded housing cost is approximately $1.35 million in 1986 dollars excluding the Library Administration building at Ellesmere. Ellesmere Yard accounts for about 72%.

Summary of Existing Yard Lands Areas and Values

No.	Description	Size in Hectares	Approx. Est. Disposal Value
1	Birchmount	1.78	$ 814,000
2	Ellesmere	9.76	7,230,000
3	Thomson Park	0.07	n/a
4	Brimley	0.73	450,000
5	Proposed McCowan	4.91	2,000,000
6	Heron Park	0.16	n/a
7	Nashdene	4.81	4,160,000
8	Morningside	2.20	1,200,000
	Gross Total	24.42	$15,764,000

Notes:

(a) Thomson Park Yard is purely an external storage area.

(b) Morningside Yard only occupies a maximum of 20% of the overall site. The remaining area is occupied by an old sanitation landfill hill (to the west for 55% of the site) and parkland (to the south for 25%). Potential to extend yard area is limited (i.e. only to the north because of water slide agreement).

(c) Road widening will probably reduce the size of the McCowan site by 0.61 hectares.

(d) The disposal values are conservative and have been developed in discussions with the Economic Development Department.

Inventory of City Yards Facilities Properties

Yard: Birchmount

Location: S/E corner of Birchmount and Ridgetop Road

Site Characteristics

1.	Size:	1.78 ha
2.	Configuration:	Regular
3.	Topography:	Flat
4.	Drainage:	Paved
5.	Vegetation:	Semi-mature trees at entrance off Ridgetop Road
6.	Road Frontage:	Approximately 350
7.	Appearance/Condition:	Parks yard (equipment/vehicles/gas pumps/main building) good repair, parking 90 spaces (3 small portable classrooms, poor repair, broken windows) - covered storage area (roofed/open)
8.	Estimated Land Value:	4.40 ac @ $185,000/ac = $814,000 Note: - values are rough estimates - access and 401 visibility are not very good

Local Setting

1.	Adjacent Land Uses:	Industrial
2.	Compatibility:	Good
3.	Development Plans:	Not significant
4.	Transportation:	Highway 401
5.	Public Transit:	TTC (regular surface route)

Yard: Birchmount

Utilization

1. Site Utilization:	Workshop activities (welding, painting, small equipment repair, irrigation piping, etc.), vehicle parking and equipment storage
2. No. of Buildings:	1 building of 15,450 sq. ft. area 1 storage shed plus 3 portables for storage discussed above

Land Use Regulations

1. Community:	Ellesmere Industrial District
2. O.P. Designation:	General industrial
3. Zoning:	Industrial (M)

Inventory of City Yards Facilities Properties

Yard: Ellesmere

Location: N/W corner of Ellesmere/Midland

Site Characteristics

1.	Size:	9.76 ha
2.	Configuration:	Regular
3.	Topography:	Flat
4.	Drainage:	Paved
5.	Vegetation:	Limited
6.	Road Frontage:	Midland
7.	Appearance/Condition:	Good
8.	Estimated Land Value:	24.4 ac @ $300,000/ac = $7.23 million (caution: these lands not zoned industrial)

Note: - values are rough estimates
- site ideally suited for some type of commercial/office use
- municipality should rezone prior to selling

Local Setting

1.	Adjacent Land Uses:	Industrial/Commercial
2.	Compatibility:	Fair
3.	Development Plans:	Numerous proposals in the Progress District but nothing significant nearby
4.	Transportation:	Ellesmere Road, Midland Avenue
5.	Public Transit:	LRT/regular TTC surface route

Yard Ellesmere

Utilization

1. Site Utilization:	Works Department quartering for Sanitation, Roads, Waste Water section equipment, Vehicles and Personnel along with associated offices; recycling Centre, extensive storage of various materials; Central Stores and Fleet and Maintenance servicing garage, Animal Control, M&C workshops and offices, automobile parking (approximately 350)
2. No. of Buildings:	6 major structures comprising building "A" for Works service, "B" for Works covered storage of vehicles/equipment/material, "C" for M&C garage and Central Stores, and Library Board H.O. and Admin. building, Animal Control Centre/office and a salt dome

Land Use Regulations

1. Community:	Progress Industrial District
2. O.P. Designation:	Institutional/Public Utilities
3. Zoning:	Institutional (I) - public library - school for mentally handicappted children - magnetic observatory - municipal works yard

Note: Animal Control Centre does not conform to zoning by-law.

Inventory of City Yards Facilities Properties

Yard: Thomson Park

Location: N/E corner of Brimley Road and Hydro Corridor

Site Characteristics

1.	Size:	Approximately 8,000 sq. ft.
2.	Configuration:	Regular
3.	Topography:	Slight incline
4.	Drainage:	Good
5.	Vegetation:	Good buffer by surrounding cedars
6.	Road Frontage:	Centre of park area
7.	Appearance/Condition:	Storage of equipment and vehicles
8.	Estimated Land Value	Unknown

Local Setting

1.	Adjacent Land Uses:	Park
2.	Compatibility:	Good
3.	Development Plans:	Not significant
4.	Transportation:	Brimley Road, Lawrence Avenue
5.	Public Transit:	Regular TTC surface route

Utilization

1.	Site Utilization:	Two fenced outside storage areas of 4,000 sq. ft. each
2.	No. of Buildings:	None

Yard: Thomson Park

Land Use Regulations

1.	Community:	Bendale
2.	O.P. Designation:	Major open space
3.	Zoning:	Major open space (O)

Inventory of City Yards Facilities Properties

Yard: Brimley

Location: East side of Brimley, south of Danforth

Site Characteristics

1.	Size:	.73 ha
2.	Configuration:	Irregular (triangular)
3.	Topography:	Flat
4.	Drainage:	Good
5.	Vegetation:	None
6.	Road Frontage:	20 feet then retaining wall as road descends for road/rail grade separation
7.	Appearance/Condition:	Good
8.	Estimated Land Value:	1.8 ac @ $240,000 = $450,000

Note: - values are rough estimates
- produces company (grapes) to the south leases land from CN which has an access R.O.W. over Brimley yard
- Brimley Yard building valuable, solar, etc. $71/sq. ft. to construct - $50/sq. ft. is average

Yard: Brimley

Local Setting

1. Adjacent Land Uses:	Heavy industrial to north, G. Adano (grapes) to south, railway to south east, residential/light industry to west
2. Compatibility:	Good
3. Development Plans:	Industrial, retail, office proposals nearby
4. Transportation:	Limited access to Brimley Road
5. Public Transit:	Rush hour surface route only

Utilization

1. Site Utilization:	- grass cutting machinery - pick up trucks - tree/flower planters - small piles of soil - fairly small operation by appearance, i.e. primarily grass maintenance, small jobs, etc. looks a little tight on space
2. No. of Buildings:	- 2 buildings - 1 office/admin - 1 wooden shed - storage

Land Use Regulations

1. Community:	Knob Hill Industrial
2. O.P. Designation:	Industrial Area Use
3. Zoning:	Industrial (M)

Inventory of City Yards Facilities Properties

Yard: Proposed McCowan Road

Location: West side of Brimley Road, south of Eglinton

Site Characteristics

1.	Size:	4.91 ha
2.	Configuration:	Regular
3.	Topography:	Uneven
4.	Drainage:	Fair
5.	Vegetation:	Largely gravel surfaced with overgrown vegetation
6.	Road Frontage:	McCowan
7.	Appearance/Condition:	Vacant
8.	Estimated Land Value	12 ac @ $165,000/ac = $2 million
		Note: - values are rough estimates - value is fairly low because of the large size of the site

Local Setting

1.	Adjacent Land Uses:	Vacant immediately south with mature single family residential development further south - heavy industry to the west, vacant to the north and east - railway borders the north perimeter
2.	Compatibility:	Would be good
3.	Development Plans:	Not significant
4.	Transportation:	McCowan Road (2 lanes, becomes 4 further north and south)
5.	Public Transit:	TTC limited service surface routes

Yard: Proposed McCowan Road

Utilization

1. Site Utilization:	None - former use was for railroad yard type operations
2. No. of Buildings:	n/a

Land Use Regulations

1. Community:	Knob Hill Industrial District
2. O.P. Designation:	Industrial Area Uses
3. Zoning:	Industrial (M), General Industrial (MG), Special Industrial (MS)

Inventory of City Yards Facilities Properties

Yard: Heron Park

Location: Manse Road south of Lawrence

Site Characteristics

1.	Size:	0.4 ac (approximately)
2.	Configuration:	Rectangular
3.	Topography:	Flat
4.	Drainage:	Fair
5.	Vegetation:	Heavily treed, hidden largely from neighbourhood
6.	Road Frontage:	About 120 feet on Manse Road
7.	Appearance/Condition:	Well maintained
8.	Estimated Land Value:	Not applicable - property not likely sellable because it is bounded by parking lots (2 sides) and parkland on the rear

Local Setting

1.	Adjacent Land Uses:	Surrounded by community uses - swimming pool, baseball diamond, wading pool, community centre, parking lots
2.	Compatibility:	Good
3.	Development Plans:	Not significant
4.	Transportation:	Lawrence Avenue, Manse Road
5.	Public Transit:	TTC limited service surface route

Yard: Heron Park

Utilization

1. Site Utilization:	- appears to service only the Heron Park facilities - contains picnic tables, garbage bins, grass-cutting equipment - no real room for expansion - parking on either side
2. No. of Buildings:	1 old residential building used for offices 1 small barn for storage

Land Use Regulations

1. Community:	Westhill
2. O.P. Designation:	Major Open Space
3. Zoning:	Park

Inventory of City Yards Facilities Properties

Yard: Nashdene

Location: Nashdene Road at Tiffield

Site Characteristics

1.	Size:	4.81 ha
2.	Configuration:	Regular
3.	Topography:	Flat
4.	Drainage:	Fair
5.	Vegetation:	Well-landscaped
6.	Road Frontage:	Nashdene Road
7.	Appearance/Condition:	Very good - some unsightly outside storage visible from road
8.	Estimated Land Value:	11.9 ac @ $350,000 = $4.16 million Note: - values are rough estimated - property is valuable because it can be divided - also, potential use of Hydro R.O.W. for inexpensive parking

Local Setting

1.	Adjacent Land Uses:	Industrial area surrounding - largely vacant - residential to the west, prestige industrial to east (i.e. no outside storage, largely office) - hydro corridor to north
2.	Compatibility:	Considering the good condition, compatibility is good
3.	Development Plans:	Nashdene Road
4.	Transportation:	Several industrial building proposals, Highway 48 to east
5.	Public Transit:	TTC rush hour surface route on Middlefield Road

Yard: Nashdene

Utilization

1. Site Utilization:	Outside storage, sandpiles, graders, snow removal equipment, 1 building with truck maintenance/repair bays, parking for garbage trucks in back, landscaping section with planted trees, patio stone, bricks, etc., storage of small equipment, signs, etc. outside, employee parking for about 150-160 cars, overall the site is very well maintained, fairly recent construction
2. No. of Buildings:	1 for all site users

Land Use Regulations

1. Community:	Tapscott industrial district
2. O.P. Designation:	Institutional
3. Zoning:	Institutional public utility (I-PU)

Inventory of City Yards Facilities Properties

Yard: Morningside

Location: Morningside at 401 S.E. corner

Site Characteristics

1. Size:	2.20 ha (12.12 for yard, park area and landfill hill)
2. Configuration:	Slightly irregular
3. Topography:	Flat
4. Drainage:	None on site
5. Vegetation:	Minimal landscaping at Admin. building
6. Road Frontage:	Morningside Avenue
7. Appearance/Condition:	As good as can be expected - primarily storage and parking
8. Estimated Land Value:	$200,000 ac x 30 ac = $6 million Note: - strong potential for problems with methane gas from landfill and liability for consequences - likely very difficult to sell - provincial property at foot of hill on north side

Local Setting

1. Adjacent Land Uses:	Residential and vacant across street, grassed flat park to south, vacant to north, landfill hill to west
2. Compatibility:	Fairly secluded so overall good - some problems with residential
3. Development Plans:	Significant (school expansion/apt. bldg/condo bldg) Also, the City has an agreement with a water slide promoter (which is still in force) to lease the lands to the east and south of the yard
4. Transportation:	Highway 401 directly north at Morningside
5. Public Transit:	TTC regular surface route

Yard: Morningside

Utilization

1. Site Utilization:	- parking for about 60 cars - storage for about 16 garbage trucks - sand/gravel piles, snow fencing, etc. - fuel service (propane/gasoline) - re-cycling depot
2. No. of Buildings:	- 1 admin garage - 1 2-storey (maintenance) - 1 sand dome - 1 small storage shed

Land Use Regulations

1. Community:	Highland Creek
2. O.P. Designation:	Institutional, Public Utilities (I.P.U.)
3. Zoning:	Institutional (I)

APPENDIX D

YARD USER RESOURCE AND SPACE REQUIREMENTS BY PROGRAM

APPENDIX D

YARD USER RESOURCE AND SPACE REQUIREMENTS BY PROGRAM

Standards Used for First Order Estimation of Resource Requirements

In developing the City Yards Needs and Requirements, the following common assumptions, practices and elemental standards have been used in the preparation of the data sheets for each program.

1. Space for office personnel - 200 sq. ft. per person.

2. Space for quartering field staff - 65 sq. ft. per person (allowable also for "shop" assigned personnel).

3. Vehicle storage space (including turning room)
   - for large e.g. stake/dump/refuse, pumper etc. - 600 sq. ft.
   - for small e.g. vans/pickups etc. - 400 sq. ft.
   - for automobiles - 300 sq. ft.

4. Personnel requirements in 10 years time have been extrapolated using key indicators for current programs and combined with estimates of the impact of changes and program additions made by the program managers.

5. Functional space estimates, e.g. for shops are based on the capability required for the specific purpose identified. This also applies to external storage areas for materials.

Notes:

(a) All of the data for any particular area and the application of the above five points were reviewed for reasonableness.

(b) Economies in resource requirements, e.g. in space needs for quartering field staff from combining programs, is not intended to be taken into account in the above standards.

CITY YARDS NEEDS AND REQUIREMENTS

Department: Works

Program: 1. Sanitation

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- office staff	6	6	1,200
- field staff	130	145	9,425
- students[1]	45	45	-
			10,625
. Internal shop and storage capabilities - 5 large trucks (diesel)			3,000
. Externally stored material			-
. Vehicles stored externally			55,200
- 92 large			
- 8 spare deductions (as counted in fleet pool)			(4,800)
. Employee parking			45,300
- for 151 people			

1 Students are hired to replace full-time personnel on vacation.

Notes:

(a) The extra 15 personnel are for curbside recycling which apparently must be implemented in the manner selected because of Union Agreements.

(b) The 15 vehicles over the present fleet size of 67 (including 8 spares) is for the same reason pointed out in Note (a).

(c) Reduction possible from (a) and (b) being handled by contractors would be 975 internal and 9,000 external.

Department: Works

Program: 2. Waste Water

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- office staff	9	9	1,800
- field staff	52	52	3,380
- students[1]	8	8	-
			5,180
. Internal shop and storage capabilities			13,820
. Externally stored material			9,265
. Vehicles stored externally			
- (24) small			9,600
- (2) large			1,200
			10,800
. Employee parking - for 61 people			18,300

[1] Students are hired to replace full-time personnel on vacation.

Department: Works

Program: 3. Street Operations

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- office staff	16	16	3,200
- field staff (at one time)	109	109	7,085
- casual	11	11	715
- students[1]	16	16	-
			11,000
. Internal shop and storage capabilities			30,305
. Externally stored material			168,115
. Vehicles stored externally			
- (91) large vehicles			54,600
- (48) small vehicles			19,200
- (49) compact			14,700
			88,500
. Employee parking - for 243 people			72,900
. Speciality space for recycling and holding RV waste			31,725

[1] Students are hired to replace full-time personnel on vacation.
Speciality space for recycling and waste facilities

Department: Works

Program: 4. Engineering Survey Services

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- office staff	1	1	200
- field staff	15	15	975
- students	2	2	130
			1,305
. Internal shop and storage capabilities			150
- stores			200
- meeting room and files			480
			830
. Vehicles stored externally			
- (9) small			2,700
. Employee parking			
- for 18 people			5,400

Department vehicles includes 8 vans that are to be purchased.

Department: Works

Program: 5. Yard Administration

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- office staff	11	12	2,400
- union office			200
			2,600
. Employee parking			
- (12) employees			
- (15) visitors			8,100
(27)			

Department: Works

Program: 6. Transportation/Sign Shop

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- office staff	5	7	1,400
- operations staff	13	20	1,300
. Internal shop and storage capabilities			
- shop			3,000
- dark room			100
- camera room			150
- sign stores			800
- sign distribution			200
- outside shed			1,000
			5,250
. Externally stored material			
- stores			7,000
. Vehicles stored externally			
- (2) compact			
- (5) small			2,600
. Employee parking			
- for 27 people			8,100

The shop is currently occupying about 2,250 sq. ft. and operating under cramped conditions. An increase in space of 33% to 3,000 sq. ft. should be sufficient to handle future activities (while also noting management's opinion that 4,000 sq. ft. is required).

Note:

(a) Increase in personnel is due to additional responsibilities for street lighting.

Department: Works

Program: 7. Engineering Inspection/Test Lab

	Current	In 10 Years	Sq. Ft. Space
. Personnel			
- supervisor	1	1	200
- secretary	1	1	200
- inspectors	18	18	1,170
- temps	2	2	130
- on-loan drafting	1	1	65
- utilities coordinator	1	1	65
- test lab tech	1	1	65
- students	4	4	260
			2,155
. Internal shop and storage capabilities			
- test lab			720
. Externally stored material			
- chemical stores			50
. Vehicles stored externally			-
. Employee parking			
- for 29 people			8,700

Department: Recreation and Parks

Program: 1. Parks Maintenance

Resources:

. People, vehicles and equipment

	Current	In 10 Years	Sq. Ft. Space
- staff (2 supt., 7 foremen 2 sec., 1 clerk)	12	13	2,600
- full-time field staff	58	65	4,225
- temporary help (students & casuals)	57	70	4,550
- vehicles and mobile equipment			
. small, permanently assigned	9	11	3,300
. pick ups, permanently assigned	49	54	21,600
. large, permanently assigned	33	35	21,000
. pick ups, summer rentals	11	15	6,000
. Shop and internal storage capabilities for tool cribs, portable equipment working space for tool repairs, keeping chemicals, etc.			7,760
. Externally stores material and/or equipment for granular and other items			49,300
. Parking for			
- 148 employees			44,400
- 3 visitors			900

Notes:

(a) Staffing has been estimated approximately on the 1 to 3% annual growth assumption split 1 to 2 on permanent/temporary basis.

(b) The internal shop and storage requirements are based on the existing space/storage capacity in use at the existing yards either on a permanent or temporary basis. A similar approach was applied to develop the external storage numbers.

(c) The four unfilled park attendant positions are included in the 58 F/T field staff.

Department: Recreation and Parks

Program: 2. Special Duties

Resources:

. People, vehicles and equipment

	Current	In 10 Years	Sq. Ft. Space
- supervision (foremen and asst.)	2	2	400
- full time field staff	11	13	845
- temporary help (students & casuals)	20	24	1,560
- vehicles and mobile equipment			
. small, permanently assigned	3	3	900
. pick ups, permanently assigned	6	7	2,800
. large, permanently assigned	7	7	4,200
. pick ups, summer rentals	6	7	2,800
. Shop and internal storage capabilities required for nameplates and signs, irrigation supplies and fitting area fabrication and welding work area and mobile equipment			2,725
. External storage for chemicals, playground apparatus, incoming and outgoing items, benches, water chambers, etc.			7,425
. Parking for 39 employees			11,700

Notes:

(a) Staffing has been estimated on a similar basis to that used for Program 1.

(b) Space requirements have been estimated as per Program 1.

Department: Recreation and Parks

Program: 3. Horticulture

Resources:

. People, vehicles and equipment

	Current	In 10 Years	Sq. Ft. Space
- staff (foremen)	1	1	200
- full time field forces	13	14	910
- temporary help	15	18	1,170
- vehicles and mobile equipment			
. small, permanently assigned	-	-	-
. pick ups, permanently assigned	6	7	2,800
. large, permanently assigned	7	8	4,800
. pick ups, summer rentals	6	8	3,200
. Internal storage and working spaces for tools, equipment and supplies			1,250
. External storage space fertilizer, shrubs/trees, topsoils, etc.			8,025
. Parking for 33 employees and 1 visitor			10,200

Notes:

(a) The forestry program uses the shrub/trees, topsoil, etc. storage space as well as the horticulture one.

Department: Recreation and Parks

Program: 4. Forestry

Resources:

- People, vehicles and equipment

	Current	In 10 Years	Sq. Ft. Space
- staff (foremen)	1	1	200
- full time field staff	19	23	1,495
- temporary help	8	16	1,040
- vehicles and mobile equipment			
. small, permanently located	-	-	-
. pick ups, permanently located	4	6	2,400
. large, permanently located	7	9	5,400
. pick ups, summer rentals	3	6	2,400
. Internal storage and working space			800
. External storage			52,500
. Parking for 40 employees and 1 visitor			12,300

Notes:

(a) The two arborist positions proposed for 1988 are included in the 19 under the Current column.

(b) The In Ten Year numbers are based on Department estimates and are due to reducing the service cycle and other program upgrades.

Department: Recreation and Parks

Program: 5. Parks Shop

Resources:

. People, vehicles and equipment

	Current	In 10 Years	Sq. Ft. Space
- staff (foremen and stock clerk)	2	2	400
- full time shop/field staff	10	12	780
- temporary help	2	2	130
- vehicles and mobile equipment			
. pick up	2	2	800
. truck	1	1	600
. summer rentals	2	2	800
. Internal working and storage space for rough carpentry, nameplates and signs painting, equipment repair supplies			5,760
. External space for working, storage and staging, e.g. for washing, holding henches, keeping steel stock, incoming and outgoing items, etc.			2,840
. Parking for 16 employees			4,800

Note:

(a) The above requirements basically reflect the status quo.

Department: Recreation and Parks

Program: 6. Concessions

Resources:

	Sq. Ft. Space
. Staff	
- 2 office	400
- 3 full time (increase of 1 from present)	195
- 2 part time	-
. Vehicles	
- 2 vans for delivery/storage	800
. Internal storage and other space	640
. Parking for	
- 5 staff	1,500
- 2 visitors	600

Notes:

(a) The internal storage and other space requirements are based on the existing four room space in use at Birchmount and not the 1982 layout. It upgraded the existing space allocation to approximtely 6,660 sq. ft. (compared to the 1,235 above) and was broken down roughly as follows:

- office and personnel space 1,100 sq. ft. (595)
- food preparation and immediate storage 1,200 sq. ft. (at community centre)
- warehousing for concession supplies 3,560 sq. ft. (640)
- garage for 2 vans and loading dock 800 sq. ft. (external)

(b) The corresponding existing internal spaces are shown in brackets at the end of each line.

Department: Maintenance and Construction

Program: 1. Vehicle and Equipment Fleet

Resources:

. People, vehicles and mobile equipment

	Current	In 10 Years	Sq. Ft. Space
-staff and personnel in office	7	9	1,800
- field staff (days and afternoons)	25(19/6)	27(20/7)	1,755
- vehicles and mobile equipment	14	16	-
. small	5	5	1,500
. pick up	7	9	3,600
. large	2	2	1,200

. Shop capabilities required internally or externally

- maintenance bays for large and small vehicle repair	
. 20 used on 1 or 2 shifts @ 750 sq. ft. each	15,000
- washing and lubrication bays	
. 2 @ 1,500	3,000
- tire exchange and tire repair	2,000
- battery room	400
- shop equipment for weling and machining	500
- tire storage	750

Note:
The external sourcing of all capabilities currently purchased or contracted has been assumed to continue. The same applies to the provisions of equipment for environmental quality, and lifting and hoisting.

. Externally stored material, vehicles or equipment

- an estimated 24 (21 now) fleet spare units, 15 @ 600 and 9 @ 400 each	12,600
- vehicles (and equipment?) awaiting maintenance action or collection, estimated 6 on average @ 600	3,600

. Parking for

- 36 employees	10,800
- 4 visitors	1,200

. Resource provisioning or other current constraints
- none identfied; existing facility, although not ideal has probably adequate floor space for expected fleet growth.

Department: Maintenance and Construction

Program: 1. Vehicle and Equipment Fleet

Resources:

- Special yard services - stores access important because of "remove and replace" focus
  - fuel station for regular and unleaded gas, diesel and propane space requirements estimated to be approximately 250 sq. ft. not including underground/overhead storage tanks. This would apply for each yard
  - flammables storage

Department: Maintenance and Construction

Program: 2. Physical Plant Operations

Resources:

. People, vehicles and equipment

	Current	Sq. Ft. Space
-staff in office (includes contractor)	7	1,400
- field staff not facility assigned (winter/summer)	10-12/ 20-24	1,560
- vehicles and mobile equipment	21	-
. ice resurfacers (kept at rinks)	13	-
. other (excludes power sweeper kept at C.C.)	7	2,800

. Shop capabilities required internally or externally
- none required as only assembly space, vehicle parking, some materials storage and contractor operating space are needed assuming functions currently purchased (e.g. fire hydrant maintenance) continue to be contacted

. Material storage
- pool pumps, supplies and chemicals plus other items for seasonal needs in external compound — 400
- internal storage space for operations group tools, fire extinguishers, etc. — 150

. Employee parking for 30 — 9,000

. Public parking for 4 visitors — 1,200

. Resource provisioning or other current constraints
- none noted

. Special yard services
- storage space for hydrant contractor trailer and supplies in external compound — 5,000
- parking space inside yard for 6 trucks and a backhoe owned by hydrant contractor — 4,200

Department: Maintenance and Construction

Program: Building Maintenance

Resources:

- People, vehicles and equipment

	Current	In 10 Years	Sq. Ft. Space
-staff and personnel in office	5	5	1,000
- field staff	39	45	2,925
- vehicles and mobile equipment	39	45	
. small	5	5	1,500
. medium	25	31	12,400
. large	9	9	5,400

- Shop capabilities required internally or externally

- woodworking plus wood, sheeting and related tool storage	3,000
- hand painting with paint, brushes and tool storage	500
- electrical item repairs and association storage	350
- mechanical item maintenance, metal working and plumbing	900
- masonry tools, equipment and immediate materials dry storage	350

Note:
The external sourcing of all capabilities currently purchased has been assumed to continue. See separate section for an itemized listing of all capabilities obtained through contracts that could potentially be supplied internally.

- Other material and equipment storage (External)

- concrete mixer and H.P. washer (under cover)	600
- Civic Centre lighting standards	200

- Employee parking 50 spaces — 15,000
- Public parking for 4 visitors — 1,200
- Resource provisioning or other current constaints
- Special yard services
  - access space for vehicle to remove dust collector hopper contents — 600

Department: Maintenance and Construction

Program: 4. Buildings Delivery and Technical Support

Resources:

	Current	Sq. Ft. Space
. Staff and personnel in office	7	1,400
. Employee parking	7	2,100
. Public parking for visitors	5	1,500

Department: Maintenance and Construction

Program: 5. Internal and Other Support

Resources:

	Current	Sq. Ft. Space
. Office staff	16	3,200
. Field personnel		
- communication	4 (max 2 on duty)	400
- weigh scale	4 (max 1/yard)	-
. Employee parking for 19		5,700
. Public parking for 4 visitors		1,200
. Specialty space		
- weather station and antenna/radio base station	17,000	
- weigh scale and associated operator area	1,200	

Department: Treasury

Program: Central Stores

Resources:

	Expected No.	Sq. Ft. Space
. People, vehicles and equipment		
-staff	4	800
- stores personnel	6	390
- fork lift truck	1	-
. Shop capabilities		
- Key cutting	-	-
- cutting standard stock methods, etc.	-	-
- assembly and crimping hydraulic hoses	-	-
Note: All of the above occupy less than 100 sq. ft. and are therefore included with the storage space below.		
. Material handing and storage space (existing) for		
- internal storage (stock items)	-	17,000
- receiving/shipping etc.	-	2,400
- external compound	-	33,000
- internal storage (non-stock)	-	2,600
. Parking spaces for		
- employee automobiles (@ 300 each)	10	3,000
- vehicles of users (@ 400 each)	10	4,000
- travelling vendor vehicles (say 1)	1	600
- FLT included in storage space	-	-

Department: Buildings

Program: Animal Care and Control

Resources:

. People, vehicles and equipment

	Current	Expected	Sq. M. Space
- staff and personnel in office	6	8	280
- field staff	11	13	
- vehicles (1 kept in new building bay)	4	5	149

. Capabilities required internally or externally — 800
- DOR storage, isolation, sick bay, kennelling, animal examinations, caging, disposal, food storage and preparation and trap storage functions along with a complete veterinarian suite has been specified in the preliminary drawings issued in August 1987

- no external storage required

. Employee parking
- for 7 staff allowed in August 1987 preliminary plans assuming a yard location — 196

- for up to 20 staff may be needed if new facility located independently — 560

. Public parking
- for 1 vehicles allowed in August 1987 preliminary plans — 308

. Resource provisioning or other current constraints
- budget approval given for construction of new facility

- land costs may have to be included in capital budget estimate to build in 1988-89 if provisional location is not confirmed

Department: Buildings

Program: Animal Care and Control

Resources:

	Sq. M. Space
. Special yard services	
- secure overnight parking for 5 AC vans (if not available, an estimated additional 149 sq.m. of covered parking/bay space would be needed to house all 5 vehicles	
- AC allocated vehicles are yard serviced and maintained	
. Approximate site area required for new facility	
- if at a yard location	3,000
- if located independently	3,540

Note:

The above data is all in square metres. Using the conventional standards for other users of yard space, the equivalent allowance for 8 office and 13 field staff would be 2,445 sq. ft. or 227 sq. m., at a bit less than the 280 sq. m. taken from the preliminary drawing. This is of no particular concern because of the type of structure involved.

Department: Library Board

Program: Admin and Other Support

Resources:

	Expected No.	Sq. Ft. Space
. People, vehicles and equipment		
- staff and personnel in office	45	9,000
- field staff	15	975
- vehicles	5	2,400
. Functional shop and internal storage		
- loading dock		500
. External storage		
. Parking spaces for		
- employee automobiles	60	18,000
- visitors	15	4,500

Notes:

(a) The existing building on Ellesmere Yard has 24,500 sq. ft. of building area. Of this total, 4,000 sq. ft. are used by maintenance group.

APPENDIX E

SUMMARY OF USER SPACE REQUIREMENTS IN AGGREGATE AND BY DEPARTMENT

The data presented in Appendix D is summarized in the following four pages of this Appendix. Each entry can be traced directly to the individual program resource listing that appears in the earlier appendix.

SUMMARY OF YARD SPACE REQUIREMENTS

Department: All Departments

Program:

	Office & Pers. Accommodation		Functional Shop/ Internal Storage	External Storage	Vehicle Parking	Parking For Employees & Visitors	Specialty Space	Totals
1. Works	35,565	(53+381)	53,925	184,430	155,000	166,800	31,725	627,445
2. R&P	21,000	(21+260)	18,845	120,095	86,600	86,400	-	333,040
3. M&C	15,440	(46+96)	26,900	10,400	44,600	48,900	21,800	168,040
4. Central Stores	1,190	(4+6)	20,000	30,000	4,600	3,000	-	58,790
5. Animal Control	3,014	(8+13)	8,611	-	1,600	9,300	-	22,525
6. Library Admin.	9,975	(45+15)	20,025	-	2,400	22,500	-	54,900
Totals	86,284	(177+771)	148,306	344,925	294,800	336,900	53,525	1,264,740

Existing Department Provisions

Excluding salt domes, the total building area available at the existing yards is 215,170 square feet (Upton has approximately 3,900). Total site area excluding Upton Yard but including McCowan is 23.81 ha or 2.56 million square feet.

Notes:

(a) See separate departmental summary sheets for Works, R&P and M&C program build up. All data are in sq. ft.

(b) Central Stores storage space requirements are 10% less than existing based on the assumption that more efficient area and cube utilization will be possible for approximately the same physical amount of inventory (stock and non-stock).

(c) Animal Control requirements have been derived from the preliminary drawings prepared for the replacement facility for the existing centre.

(d) The numbers in brackets are the respective office and field/shop staff that have to be housed.

SUMMARY OF YARD SPACE REQUIREMENTS

Department: Works

Program:

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Sanitation	10,625	(6+145)	3,000	-	50,400	45,300	-	109,325
2. Waste Water	5,180	(9+52)	13,820	9,265	10,800	18,300	-	57,365
3. Street Operations	11,000	(16+120)	30,305	168,115	88,500	72,900	31,725	402,545
4. Survey	1,305	(1+17)	830	-	2,700	5,400	-	10,235
5. Yard Admin. Support	2,600	(12)	-	-	-	8,100	-	10,700
6. Transportation/ Sign Shop	2,700	(7+20)	5,250	7,000	2,600	8,100	-	25,650
7. Inspection & Test Lab	2,155	(2+27)	720	50	-	8,700	-	11,625
Totals	35,565	(53+381)	53,925	184,430	155,000	166,800	31,725	627,445

Existing Department Provisions

At Upton and Morningside Yards, the site area available is approximately 375,000 sq. ft. and building space is approximately 10,950 sq. ft. At Nashdene and Ellesmere the corresponding number for Works occupied areas are 127,930 sq. ft. and approximately 47,570 respectively.

Notes:

(a) All space data are in sq. ft.

(b) For Type "A" space, the numbers in brackets represent the office based (first number) and field personnel (second number).

(c) In Program 3, Type "B" space allows for contracted vehicles; Type "E" allows for contractor personnel in addition to City staff; and Type "F" space is for recycling centres at two yards.

(d) In Program 4, Type "B" space allows for the eight vans yet to be purchased.

(e) In Program 5, Type "A" space allows for 200 for a union office; Type "E" allows for 15 visitors.

SUMMARY OF YARD SPACE REQUIREMENTS

Department: Recreation and Parks

Program:

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Parks Maintenance	11,375	(13+135)	7,670	49,300	51,900	45,300	-	165,545
2. Special Duties	2,805	(2+37)	2,725	7,430	10,700	11,700	-	35,360
3. Horticulture	2,280	(1+32)	1,250	8,025	10,800	10,200	-	32,555
4. Forestry	2,735	(1+39)	800	52,500	10,200	12,300	-	78,535
5. Parks Shop	1,310	(2+14)	5,760	2,840	2,200	4,800	-	16,910
6. Concessions	595	(2+3)	640	-	800	2,100	-	4,135
Totals	21,100	(21+260)	18,845	120,095	86,600	86,400	-	333,040

Existing Department Provisions

At the five yards used, assuming a 60/40 R&P/Works split at Nashdene, Type A and B space amounts to approximately 36,480 sq. ft. and 5.61 ha or about 600,000 sq. ft. of site area.

Notes:

(a) The numbers in brackets are the respective office and field/shop staff that have to be housed.

(b) All other numbers are in sq. ft.

(c) Miscellaneous existing storage (small) at other locations have been included.

(d) Permanent staffing is around 110-115 based at the yards.

(e) Seasonal requirements increase Type "D" and "E" space by approximately 29,400 sq. ft.

SUMMARY OF YARD SPACE REQUIREMENTS

Department: Maintenance and Construction

Program:

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Vehicle & Equipment	3,555	(9+27)	21,650	-	22,500	12,000	3,000	62,705
2. Physical Plant	2,960	(7+24)	150	9,600	2,800	10,200	-	25,710
3. Buildings Maintenance	3,925	(5+45)	5,100	800	19,300	16,200	600	45,925
4. New Buildings	1,400	(7)	-	-	-	3,600	-	5,000
5. Internal Support	3,600	(18)	-	-	-	6,900	18,200	28,700
Totals	15,440	(46+96)	26,900	10,400	44,600	48,900	21,800	168,040

Existing Department Provisions

Building "D" at Ellesmere has a building area of approximately 12,500 sq. ft.	
1st floor functional, personnel and office space is approximately	12,500
2nd floor offices and personnel space is approximately	4,600
Total internal space available is therefore	17,100

Programs 2 through 5 are currently housed in the existing building "D". Their requirement from the above data is (2,960 + 150 + 3,925 + 5,100 + 1,400 + 3,600) or 17,125 sq. ft.

The existing garage building at Ellesmere (Part of Building "C") has a building area of 52,689 sq. ft.

Notes:

(a) Program 1 specialty space is for fuelling @ 750 sq. ft. per yard.

(b) Program 3 specialty space is for access to dust collector hopper. It could double as a vehicle parking space.

(c) Program 5 specialty space is for the antenna/radiobase (17,000) and one weigh scale (1 @ 1,200) per yard.

(d) The brackets after the Office and Personnel Accommodation space requirements contain the number of personnel office based (the first number) and the number who work in the field (or shop) and use personnel space as their base.

APPENDIX F

PROVISIONAL SIZING OF THE MAIN ALTERNATIVES AND POTENTIAL SITES FOR YARD LOCATIONS

APPENDIX F

PROVISIONAL SIZING OF THE MAIN ALTERNATIVES AND POTENTIAL SITES FOR YARD LOCATIONS

Go as Close as Possible to the Ideal

Possible sites for this alternative were identified in Section 6.7 of the report. Initial investigation soon revealed that the potentially vacant sites in Golden Mile and Progress East Industrial Districts were under developed and hence unavailable. But even before proceeding with exploring the sizing of this alternative, it soon became apparent that it would be dominated by some of the other alternatives such as those described in Sections 6.3, 6.4 and 6.6. Despite its releasing land for other purposes or disposal, and improving on existing operational efficiency of the present arrangement (through travelling time reductions), we concluded that the starting over alternative could not become a serious contender. More specific observations supporting abandoning it are:

- a minimum of approximately $20 to $25 million new construction would be involved
- disruption costs would be high
- physical implementation would be long and difficult
- potential conflict exists with other City objectives
- municipal tax inflows would not be significantly different from the alternatives described in Section 6.3 and 6.4 of the report.

Replace the Biggest and the Proposed

A similar fate to that described above befell this alternative. Because of the unavailability of vacant sites in the appropriate area - Golden Mile Industrial District - it would not have been readily implementable. In addition to the physical fit problem, it would also tend to be dominated by the other alternatives that involve closing down the Ellesmere Yard and selling the lands there for redevelopment. We therefore decided not to investigate this alternative in any detail.

Use Three New Yards

The first variant of this alternative discussed in Section 6.6 can be disqualified on the grounds that it cannot be readily implemented. The reason is the absence of vacant sites in the areas required, i.e. in Golden Mile and Progress East Industrial Districts. Alternatives 6.3 and 6.4 also offer benefits of the same type and can be expected to cost no more to implement. It is therefore not worth exploring the first variant any further.

The second variant of the alternative would appear to have some potential. Accordingly, it was included in the preliminary sizing presented below in the next paragraph of this appendix.

Preliminary Sizing of Alternatives

Alternatives 6.2, 6.3, 6.4 and one variant of 6.6 made it past the initial screening. How they stack up in terms of available space can be readily observed in the table that follows on page 3. The available site area of the selected alternative has to accommodate a maximum of 11.75 ha excluding allowances for landscaping, circulation and access - if all existing programs housed in yard lands have to continue in operation from yard premises. Should only those programs that must be delivered from yard space be housed in yard facilities, then the net space to be provided would reduce from 11.75 ha to between 10 and 10.5 ha depending on the circumstances, building configuration and synergistic induced parking space reduction. Further comments on sizing and aggregate physical fit are made below the table.

Yard Location	Reference Alternative Nominal Space Available							
	6.2	6.3(1)	6.3(2)	6.3(3)	6.4(1)	6.4(2)	6.6(2)	6.6(3)
Ellesmere	9.76							
Morningside	2.20	2.20	2.20				2.20	
Nashdene	4.81	4.81	4.81	4.81	4.81	4.81	4.81	4.81
McCowan	4.30	4.30	4.30	4.30	4.30	4.30	4.30	4.30
Birchmount		1.78	1.78	1.78	1.78	1.78	1.78	1.78
Brimley			0.87			0.87		
New in Northern Half of the City				4.00				
New in I.D. "B" or "C"					2.8/3.3	2.8/3.3	2.00	2.00
New in I.D. "M"					4 - 5	4 - 5		2.00
New in I.D. "I"							2.00	
Totals	21.07	13.09	13.96	17.09	18.44	19.17	17.09	16.89

Notes:

(a) All figures are in hectares.

(b) Industrial Districts "B", "C", "I" and "M" are Centennial, Coronation Drive, Milliken and Rouge respectively.

(c) The totals for alternative 6.4(1) and (2) are averages and based on specific sites in the I.D.'s concerned.

(d) The existing yard site areas were taken from Appendix C.

(e) The new yard site areas shown under alternative 6.3(3), 6.6(2) and (3) are nominal ones.

(f) The balance of the lands at Upton Road Yard could be added to alternative 6.3(2) if marginally more existing City owned land is needed. The Upton site was 1.28 hectares in size. With the sale of the approximately 1 acre parcel, roughly 0.87 hectares are left. Creating additional plots by either joining Upton and Sinnott Roads or constructing a cul-de-sac/turning circle will take more site area and leave approximately 0.5 to 0.6 hectares. It may be possible and perhaps beneficial to use the two plots for storage purposes rather than sell them as is the current intent.

(g) Alternative 6.3(3) may be applicable if the existing City owned space cannot accommodate the requirements. More lands will then have to be acquired if the present methods of program delivered are to be retained. Potential sites exist in the following Industrial District in the northern half of the City.

- Milliken (north of the Hydro corridor)
- Marshalling Yard (around Finch and Markham)
- Neilson (at Markham and Sheppard on Public Works Canada owned property)
- Rouge (various sites along and off Sheppard between Morningside and Meadowvale)

Sites of the appropriate size are available in Tapscott Industrial District but they are not identified because Nashdene is in the same area. Nashdene is also not too distant from Milliken and Marshalling Yard Industrial Districts. Morningside Yard is adjacent to Rouge.

The site at Markham and Sheppard in Neilson Industrial District is being reserved for uses related to the proposed Malvern transit extension and commercial development. Closing Ellesmere and moving there into a smaller site is not desirable in the long run. A similar scenario to Ellesmere's current situation would be replicated at the Markham and Sheppard site some years down the road.

Examining the table reveals that alternatives 6.4(1) and 6.4(2) mimic 6.3(1) and 6.3(2) with Morningside Yard being replaced. If Morningside can support some development then it could be expected that the latter two alternatives would be dominated by the former two, provided operational benefits do not outweigh the higher implementation costs of 6.4(1) or 6.4(2). Morningside has limited potential to expand northward into the Ontario Hydro corridor. The City's agreement with a water slide promoter and operator precludes expanding south of the existing yard area. For the purpose of carrying out evaluations on the alternatives, we decided therefore to amalgamate 6.4(1) with 6.3(1) and 6.4(2) with 6.3(2).

APPENDIX G

PRELIMINARY INVESTIGATION OF POTENTIAL SITES FOR NEW OR RELOCATED YARDS

APPENDIX G

PRELIMINARY INVESTIGATION OF POTENTIAL SITES FOR NEW OR RELOCATED YARDS

After potential sites had been identified in the process of generating potential alternatives for yard configuration, development, they were briefly examined to confirm their availability and suitability. The list below covers the candidate sites we observed and reviewed. Our conclusions on the role they might play in contributing to evaluating the competing alternatives is noted beside each site.

Industrial District Location and Site	Purpose, Comments and Conclusion
Centennial "B" - Sites 8-11	
Coronation Drive "C" - Site 7	
Coronation Drive "C" - Site 9	
Golden Mile "E" - Sites 3+4 and 7-10	New yard, under development, no prospect
Milliken "I" - Site 23-28	
Milliken "I" - Site 9	
Milliken "I" - Site 10	
Progress East "L" - Site 4	New yard/AC; development application in process; neg. prospects
Progress East "L" - Site 5+6	AC Fac., under construction, no prospect
Rouge "M" - Site 5	
Rouge "M" - Site 6	
Rouge "M" - Site 9	
Rouge "M" - Site 23	

Progress West "K" - Site 4	AC Fac., still available, a possibility
Progress West "K" - Site 5	AC Fac., too big, already sold, doubtful
Neilson "J" - Site 9	New yard, competing planned uses, doubtful if makes economic sense
Neilson "J" - Site 10	
Progress West "K" - Site 1	AC Fac., bit big, a possibility
Progress West "K" - Site 3	

The development potential of the existing yard site was noted in Appendix C, the inventory of properties.

APPENDIX H

SUMMARY OF POTENTIAL ISSUES IDENTIFIED BY USERS

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SUMMARY OF POTENTIAL ISSUES IDENTIFIED BY USERS

Works

- Covered storage for vehicles
- Weigh scale service
- Routine servicing capability where vehicles are quartered
- Vehicle parking on paved/unpaved space
- Improved external storage (e.g. salt domes @ all yards)

Recreation and Parks

- The number of yards/travelling time trade-off
- Functional shop capabilities needed (internally provided or supplied by M&C)
- Extent of manufacturing carried out by Recreation and Parks
- Better facility space for Concession Program/Park Shop program, welding and painting
- Covered storage for seasonal equipment
- Method of charging for fleet equipment
- Service from Central Stores
- Crews returning to their yard base for lunch
- Difficulty in finding and using subcontractors
- Defficiencies in existing yard facilities

Maintenance and Construction

- Upgrading garage capabilities
- Responsibilities for small engine R&O
- Viability of a welding/paint shop for the City
- Weigh scale service
- Responsibility for maintaining Library Board buildings and supplying carpentry services

Other Users

- Central Stores
  - more satellites
  - what should be stocked and/or stored
  - provision of evening service
  - surplus space in existing accommodation

- Animal Control
  - new facility location

- Library Admin.
  - splitting existing functions located at Ellesmere into three and housing in separate locations
    (a) building maintenance and related
    (b) pure admin. to a new central library complex
    (c) the remainder to go elsewhere
  - transfer of (a) to M&C

Deloitte
Haskins+Sells

Chartered Accountants

P89026

CITY OF SCARBOROUGH

CREATING A MASTER PLAN FOR THE DEVELOPMENT OF CITY YARD FACILITIES

FEBRUARY 1988

CITY OF SCARBOROUGH

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DELOITTE HASKINS & SELLS

FEBRUARY 1988

CITY OF SCARBOROUGH

CREATING A MASTER PLAN FOR THE DEVELOPMENT OF CITY YARD FACILITIES

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   - C6 Public Library

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CITY OF SCARBOROUGH

CREATING A MASTER PLAN FOR THE DEVELOPMENT OF CITY YARD FACILITIES

1.0 INTRODUCTION

The City of Scarborough provides services to its residents through a number of municipal departments. To carry out their programs, some of the departments use one or more of a network of yard facilities dispersed across the City. The yards are used for two primary functions which are (i) quartering of personnel and storing their vehicles, equipment and materials and (ii) performing maintenance/manufacturing workshop operations.

As the City has grown, the network of City yards has evolved to meet the requirements of the user departments. Currently eight yards are in operation and support the activities of the Departments of Works, Recreation and Parks, and Maintenance and Construction. Three other users are also located on the site of the main yard at Ellesmere and Midland Avenue.

With the recognition that:

- it may be economic to relocate some of the existing yards
- some existing yard buildings do not provide appropriate workplace environments for their present uses
- some land at the Upton Road Yard had been sold
- property had been acquired at McCowan Road and Eglinton Avenue to relocate the Upton Road Yard operations
- the inventory of housing, parks and streets continues to grow with the pace of development,

the City decided the timing was appropriate to conduct a study to create a Master Plan for the development of its yard facilities. As a consequence, a proposal call was issued in July 1987. Appendix A has the terms of reference the City specified in its request for proposals.

In August 1987, Deloitte Haskins & Sells were retained to carry out the study and prepare the Master Plan.

This report summarizes the work performed between September and December 1987. It contains the full supporting detail for the City Yards Master Plan - the second deliverable produced from our study engagement.

In carrying out our assignment, we benefitted from the direction we received from the study Steering Committee composed of senior City staff. Throughout the progress of the study, we also received input and active cooperation from many of the staff of yard using departments. Their contribution to our study is duly acknowledged.

2.0 OVERVIEW AND HIGHLIGHTS

The City will need approximately 1.3 million square feet of useful space to accommodate the existing yard based functions over the next 5 to 10 years. Of this amount, less than 20% is required for conventional building floor area. External storage and parking vehicles, equipment and automobiles are the major requirements. With just over 2.5 million square feet of site area available, the indications are that a surplus exists after due allowance is made for access, circulation and landscaping.

Works Department and the Parks Division of Recreation and Parks Department are the two main users of the existing yards space. They provide services to locations and areas distributed across the City and should have their resources located accordingly. Centralized departmental control of programs delivered is practised, but the need for a central location in the City, consisting of only a small percentage of the yard based resources of these two departments, is open to question.

From the work done on this study, one overwhelming issue has arisen. It is the future of the Ellesmere Yard. The key question is one of affordability, but from two differing perspectives. From an operational one, the question is - Can the City afford to do without Ellesmere Yard? From an economic point of view, the question to be asked is - Can the City afford to keep the Ellesmere Yard's lands for their current purpose?

Equally as important as the affordability question is the direction of the strategic development of the central corridor of the City. What policy does the City have for this area? Just how should and will the lands in question be included with the City's planning and development strategy and its subsequent implementation?

To address the issue of Ellesmere Yard's future within the context of the Yard Study, our approach was to first formulate an "ideal" yards' configuration completely free from any constraints. Our "ideal" concept was based on the understanding of the City's needs we obtained through interviews, discussions and documentation reviews we carried out with all the users of the existing yards. With our knowledge of the existing yards' arrangement and user agreed needs and requirements, we generated a range of alternatives to improve on the present situation, and move towards the "ideal". The range was then rationalized by eliminating the physically infeasible and selecting the "best" version of similar alternatives.

Two main alternatives emerged for more comprehensive evaluation; they were (i) to retain and develop Ellesmere Yard, and (ii) to close Ellesmere Yard, dispose of its lands and re-assign its functions to other existing or yet to be developed new facilities. For the second alternative, two possible arrangements were examined. They were labelled the one new "mother" yard and the two new "mother" yards options for convenience. The one "mother" yard arrangement consisted of four yards and these were McCowan, as the new "mother" yard, along with upgraded capablities at Nashdene, Birchmount and Morningside. The two "mother" yards arrangement comprised six yards, with McCowan and Nashdene as the "mother" yards in conjunction with a redeveloped Birchmount and three new satellite yards in Milliken, Rouge and Coronation Industrial Districts. This second arrangement resulted from the anticipated difficulties in implementing the first one.

We evaluated the main alternatives on the basis of physical factors, operational acceptability, levels of service to the public, economic/financial viability and intangible considerations. Contrasting the two Ellesmere disposal options with the status quo indicated that the two "mother" yards, four satellite yards arrangement was superior to one "mother" yard plus three other yards version. From this comparison, the six yard arrangement was then evaluated in a more detailed manner with the alternative to retain and develop the Ellesmere Yard.

With the completion of the evaluation process, we presented our conclusion to the Study Steering Committee and recommended - based on the overall benefits, savings, costs, disadvantages and advantages to the City as a whole - that the City adopt the two "mother" yards, four satellite yards conceptual alternative as the basis for its yards development over the next 20 to 30 years. Our recommendation is subject to three conditions. They are that (i) an independent valuation of the Ellesmere Yard site confirms it is adequate to fund all of the new configuration's development and implementation, (ii) physical and operational implementation reasonably satisfies the needs of yard users, and (iii) the new configuration be consistent and compatible with City planning policy and strategic direction for the central core area.

For the recommended configuration, we detail how it can house all the existing yard functions when it is fully implemented. To complement the assignment of functions and resource allocation, we also comment on the management and operational issues that arose as part of our broad operations reviews of the existing facilities. Where appropriate, suggestions are made on operating with the recommended yard arrangement. Finally, we discuss how the new concept can be implemented in a series of steps, and give an approximate timetable of activities and events.

Our intent in preparing a listing of how existing functions can be assigned, and of resource allocation to the new six yard arrangement, is to demonstrate one way of making the new concept work. The final word on assignment and allocation is a matter for the users to develop as part of the implementation process. Our suggestions may be taken as a starting point from which further refinements and improvement may be made.

The existing yard users - with the exception of the Animal Centre and the Library Board - would all be housed in the new arrangement. Some minor activities that do not necessarily need a yard base could be relocated at the

detailed design stage, if higher priority functions are being constrained due to the physical characteristics of a particular site. The new Animal Centre and the Library Board functions would be located independently. A site at the corner of Progress and Midland Avenues has been identified as a potential candidate for the new AC building.

We are aware that not all users may be convinced that our recommended configuration of six City yards is to their individual Department's advantage. Operational concerns and the absence of one yard geographically located in the central area of the City are, we understand, the main reservation. With all due respect to the extent, breadth and depth of their operational experience, we believe that they may be overstating the impact of those disadvantages identified with the recommended alternative. Changes from the existing methods of program and service delivery are inevitable. Opportunities exist with the new arrangement to make the changes in such a way that the impact on yard operations is at worst neutral with respect to the existing configuration, while maintaining the new arrangement's far reaching economic and strategic advantages to the City of Scarborough as a whole.

3.0 THE "IDEAL" YARDS' CONFIGURATION CONCEPT

As our work on the study proceeded, we developed a broader and deeper understanding of the nature of the yard requirements. Our initial ideas about how best to meet the requirements - given absolutely no constraints - was to consider a network of three to five yards of appropriate size and location. We envisaged them supported with specific additional sites for materials and equipment storage where this could be justified operationally and economically.

We did not pursue the three yard scenario as an ideal because it appeared infeasible from a number of points of view:

- the total requirement indicated the yards would have to be large individually
- the dichotomy of no central yard in this ideal configuration with the fact that only one existing yard - the central one - had adequate space
- the extremely limited chances of physical realization considering the existing City yard land inventory and potentially available sites
- operational precedent established by two major yard users of providing service from "four-yard-type" arrangements.

We concluded that a three yard concept development would not help produce worthwhile solutions because they would all be dominated by more practical alternatives.

With the elimination of a three yard arrangement, we developed a protocol for the four to five yard scenario. It was based on the rationale of closeness to customers (for reasonable response and dispersal) or service areas, efficiency of shop operations, and the trade-off between number of facilities and resource utilization. Our protocol consisted of the following statements:

(a) The City should have a maximum of five yards.

(b) One yard should be positioned centrally and one each should be located in the northeast, southeast, southwest and northwest sectors of the City.

(c) The four area yards should have an appropriate capability mix from the major users and be centred in areas with concentrated service consumption.

(d) The individual yards should be arranged and administered on the basis that contributes most to effectiveness, economy and efficiency, i.e. on a functional, zone or mixed organization basis with integrated facilities as specific conditions and circumstances require.

(e) The central yard would be for support in repair, maintenance and manufacture, and for delivering services consumed on a dispersed basis across the City or where centrally based specialization is beneficial.

(f) A variation in the five yard arrangement is to fold the central yard into one of the others making it the "mother" yard. Alternatively, the central yard functions and capability could be allocated among the four area yards.

(g) Where justified by concentrated demand for service (and hence operationally and economically), either seasonally or on average over the year, a four or five yard configuration should be augmented by site specific storage areas (e.g. in a park) and working spaces (e.g. in a building complex).

An established protocol, together with knowledge of existing properties and facilities' characteristics led into the generation of potential solutions. The next chapter of the report presents the latter as a prelude to describing and discussing the potential alternatives we identified for developing the City yards.

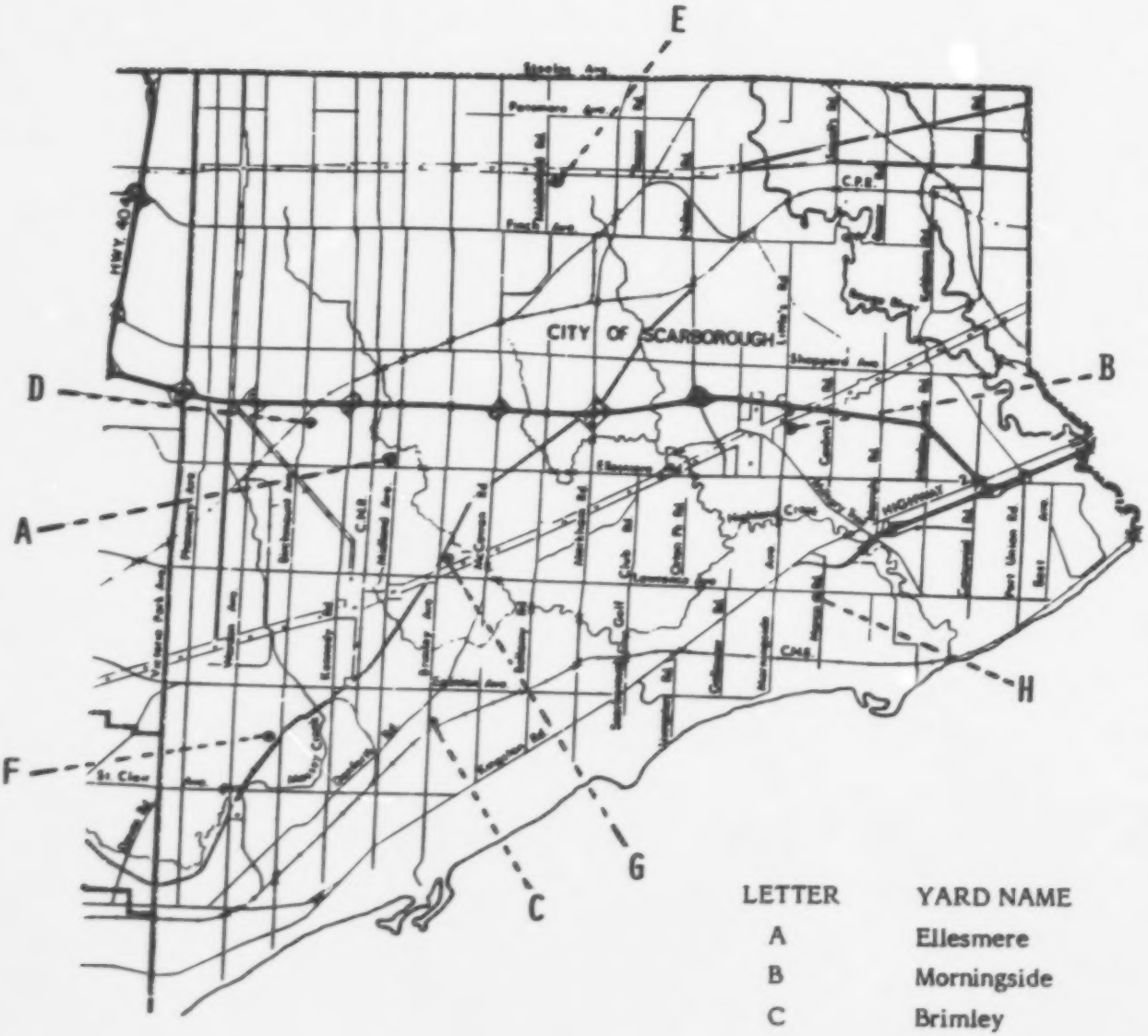
4.0 EXISTING PROPERTIES AND FACILITIES CHARACTERISTICS

Eight yards - Ellesmere, Nashdene, Morningside, Birchmount, Upton, Brimley, Thomson Park and Heron Park - are in operation. Upton is scheduled to close and be replaced. A site at McCowan and Eglinton has been acquired by the City with a view to relocating the Upton Yard functions to that site. Exhibit 1, Locations of the Existing Yards, shows the geographic distribution of the current configuration within the City. We summarized the facilities attributes by compiling an inventory on the main dimensions of site characteristics, local setting, utilization and land use regulations. Our working papers contain complete supporting detail along with a selection of photographs. We did not include details of the Upton site because of the disposal action already taken by the City.

Exhibit 2, Summary of Existing Yard Facility Properties, summarizes the available site and building areas. Points to be noted are (i) the question of more intensive use of the Morningside site because of its previous role as a garbage landfill, and (ii) expansion options at the site at McCowan, despite its being reduced due to road widening and extension. The exhibit records the fact that the available space on the existing sites, less Upton, plus the proposed McCowan site, is approximately 23.81 hectares (2.56 million sq. ft.) with roughly 211,200 sq. ft. of building area.

With regard to tenant department usage, Works Department uses two yards exclusively - Morningside and Upton - and shares two - Nashdene and Ellesmere. Recreation and Parks use four yards exclusively - Birchmount, Brimley, Heron Park and Thomson Park - and shares Nashdene. All other users are located at Ellesmere. They are the Maintenance and Construction Department, Central Stores, Animal Control and the Library Administration of the Public Library Board.

EXHIBIT 1 LOCATIONS OF THE EXISTING YARDS



LETTER	YARD NAME
A	Ellesmere
B	Morningside
C	Brimley
D	Birchmount
E	Nashdene
F	Upton
G	Thomson Park
H	Heron Park

EXHIBIT 2 SUMMARY OF EXISTING YARD FACILITY PROPERTIES

Yard	No. of Structures	Agg. Area Sq. Ft.	Site Area Hectares
Birchmount	1	15,450	1.78
Ellesmere	6	158,024	9.76
Thomson Park	1	1,435	0.07
Brimley	1	2,680	0.73
Heron Park	1	2,410	0.16
Nashdene	1	24,176	4.81
Morningside	2	7,059	2.20
Upton	2	18,286	1.28
		229,520	20.79
Proposed McCowan	n/a	-	4.91

Notes:

(a) Salt domes of 7,678 sq. ft. of building area per dome have not been included at Ellesmere, Morningside or Upton yard sites (23,036 sq. ft. in total).

(b) Storage sheds have not been included in the above.

(c) Ratio of total building area to site area is (215,120 + 23,034)/(20.79 + 107,640) i.e. 1 to 9.4.

(d) The proposed McCowan Yard site area shown is the purchased site area. It will probably be reduced by 0.61 hectares for road widening on McCowan and further reduced by the extension of Skagway Avenue. However, land exchanges/transfers with adjacent property owners have the potential of increasing the useable site area to 5.65 ha. The designated future Scarborough Transportation Corridor may also influence just how much of the 5.65 ha. can be incorporated into the new McCowan Yard.

When Upton closes and the proposed McCowan proceeds, the configuration in place will basically become a central yard with four area yards in the north, east, south and west. As such, it mimics the ideal but rotated through 45 degrees. The smaller existing yards - Brimley, Heron Park and Thomson Park - under this arrangement would either be closed or function as purely storage locations. In addition to surplus site area in aggregate, the existing yards are not therefore situated in the "ideal" places. However, physical constraints associated both with the individual existing yards and potential alternative locations limit the amount of flexibility available to generate feasible options.

Appendix B, Inventory of Existing Yard Facility Properties, provides more detailed information.

5.0 EXISTING YARD TENANT NEEDS AND REQUIREMENTS

5.1 The Collective Perspective

To accommodate the complete requirements of all existing yard users over the next five to ten years, approximately 11.75 hectares of "useful" space is required. By useful we mean the purposeful space and exclude landscaping, access, circulation and related areas which are not by themselves a primary requirement. Exhibit 3 illustrates the space differentiation used and the build-up by user of the total requirement. Further details are present in Appendices D and E.

In developing the space requirements, we have been conservative through (i) using a stand-alone program approach coupled with consistent and practical space standards, (ii) incorporating adequate allowances for expected program changes, and (iii) allowing for identified deficiencies in existing space allocations. Collectively we see the aggregate numbers quoted in Exhibit 3 as maximum ones. Even without taking into account the fact that not all existing user programs (and some program components) need to be based at a yard, there is a strong indication that the City has a surplus of land for yard related purposes. Neglecting any considerations of location and operational suitability, the 23.81 hectares of existing site quoted in Exhibit 3 is clearly much more than will be needed and that some disposal or alternative uses can be explored.

The sections that follow deal with each user in turn. Space requirements, program resources location preferences and associated matters are addressed. These include considerations of whether or not a particular program or program component should be yard based. Finally, the foregoing points are summarized in a manner which permits alternative yard configurations to be developed, and then the two leading generic alternatives to be specified in sufficient detail for full evaluation.

EXHIBIT 3

SUMMARY OF YARD SPACE REQUIREMENTS FOR EXISTING USERS

	Office & Pers. Accommodation	Functional Shop/ Internal Storage	External Storage	Vehicle Parking	Parking For Employees & Visitors	Specialty Space	Totals
1. Works	35,500	55,155	184,430	158,000	158,100	31,725	622,910
2. R&P	21,230	21,375	121,665	87,200	87,000	-	338,470
3. M&C	15,440	26,900	10,400	44,600	48,900	21,800	168,040
4. Central Stores	1,190	20,000	30,000	4,600	3,000	-	58,790
5. Animal Control	3,014	8,611	-	1,600	9,300	-	22,525
6. Library Admin.	9,975	20,025	-	2,400	22,500	-	54,900
Totals (sq. ft.)	85,849	152,066	346,495	298,400	328,800	53,525	1,265,635

Existing Department Provisions

Excluding salt domes, the total building area available at the existing yards is 229,520 square feet (Upton has approximately 18,300). Total site area excluding Upton Yard but including McCowan is 23.81 ha or 2.56 million square feet.

Notes:

(a) Exhibits 3.2, 3.3 and 3.4 are for Works, R&P and M&C program build-up.

(b) Central Stores storage space requirements are 10% less than existing based on the assumption that more efficient area and cube utilization will be possible for approximately the same physical amount of inventory (stock and non-stock).

(c) Animal Control requirements have been derived from the preliminary drawings prepared for the replacement facility for the existing centre.

(d) Of the above total space requirement (11.75 ha in total) 234,590 square feet (or 18.5%) is for building area.

(e) One hectare contains 107,640 sq.ft.

5.2 Works

The yard needs and requirements of the Works Department are driven by the programs the Department currently delivers, the projected changes in these programs and any new program initiatives expected to be introduced. New initiatives can arise from responding to local requirements or through legislation and regulation changes. Exhibit 4, Summary of Yard Space Requirements for Works, lists the requirements by program. It is based on our understanding of the current activities of the Department and its projections and plans over the study's five to ten year planning horizon.

Appendix C, Yard User Programs and Needs Over the Next Five to Ten Years, contains summary information in Section C1 for the seven programs noted in Exhibit 4. The program needs are converted into resources in Appendix D, Yard User Resource and Space Requirements by Program, in the corresponding Section D1. All data was established with the users and was subject to our review whenever we could not understand the rationale behind alterations in resource levels.

Exhibit 4 reflects an increase of about 23% in types "A" and "B" space over the existing space occupied. The reasons for the increase are:

- replacing substandard accommodation at Upton yard
- inadequate accommodation at Nashdene and Morningside Yards to house existing operations based there, and their projected growth.

The identified requirement includes some space for the internal parking of vehicles in the type "B" category. It has been allowed wherever it had already been provided, without reviewing the case for the basic need.

EXHIBIT 4

SUMMARY OF YARD SPACE REQUIREMENTS FOR WORKS

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Sanitation	10,625	(6+145)	3,000	-	44,400	45,300	-	103,325
2. Waste Water	5,180	(9+52)	13,820	9,265	10,800	18,300	-	57,665
3. Street Operations	10,935	(16+119)	31,535	168,115	97,500	63,900	31,725	403,710
4. Survey	1,305	(1+17)	830	-	2,700	5,400	-	10,235
5. Yard Admin. Support	2,600	(12)	-	-	-	8,100	-	10,700
6. Transportation/ Sign Shop	2,700	(7+20)	5,250	7,000	2,600	8,100	-	25,650
7. Inspection & Test Lab	2,155	(2+27)	720	50	-	8,700	-	11,625
Totals (sq. ft.)	35,500	(53+380)	55,155	184,430	158,000	158,100	31,725	622,910

Existing Department Provisions

At Upton and Morningside Yards, the building space available is approximately 25,350 sq. ft. At Nashdene and Ellesmere the corresponding numbers for Works occupied areas are 127,930 sq. ft. and approximately 47,570 sq. ft. respectively.

Notes:

(a) All space data is in sq. ft.

(b) For Type "A" space, the numbers in brackets represent the office based (first number) and field/shop personnel (second number).

(c) In Program 3, Type "B" space allows for contracted vehicles; Type "E" allows for contractor personnel in addition to City staff; and Type "F" space is for recycling centres at two yards.

(d) In Program 4, Type "D" space allows for the approved (but yet to be purchased) eight vans for the survey crews.

(e) In Program 5, Type "A" space allows for 200 sq. ft. for a union office; Type "E" allows for 15 visitors.

(f) In Program 3, the peak seasonal (i.e. winter) space requirements have been used.

From the perspective of where program resources should be located, Works has a mix of needs, sometimes within the program because of the nature of a program's component activities. An example is Street Operations with area driven functions like winter control and centralized ones like asphalting.

Basically, some Works activities have to be carried out across the City:

- on a routine basis on a regular cycle, e.g. most Sanitation services
- on a routine basis irregularly, e.g. some Street Operations services
- on a random basis responding to Public or inspection input, e.g. special Sanitation pickups
- on a random basis for one off planned projects, e.g. Waste Water Construction.

Support activities, such as Yard Administration and Survey in Programs 4 and 5, either take place centrally or at locations dictated by the primary service providers. Translating the foregoing into yard location preferences dictates that Works has to have its resources distributed across the City, with some reasonably centrally located to maximize resources availability for value adding activities, such as actually handling garbage. Programs 4 and 5 do not necessarily need to be yard based but there are some advantages in housing their activities in the yards.

5.3 Recreation and Parks

Repeating the format used in Works in Secton 5.2, Exhibit 5, Summary of Yard Space Requirements for Recreation and Parks, lists the space requirements by the six designated Recreation and Parks programs. Compared to the total building space currently in use, Recreation and Parks identified about 17% increase in their requirements. This does not include additional internal storage for items currently stored externally. The increase is due to existing deficiencies and planning for increased resource levels to upgrade some program services, particularly in forestry.

EXHIBIT 5

SUMMARY OF YARD SPACE REQUIREMENTS FOR RECREATION AND PARKS

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Emp. & Visitors	F Specialty Space	Totals
1. Parks Maintenance	11,375	(13+135)	10,000	49,300	51,900	45,300	-	167,875
2. Special Duties	2,805	(2+37)	2,725	9,000	10,700	11,700	-	36,930
3. Horticulture	2,280	(1+32)	1,250	8,025	10,800	10,200	-	32,555
4. Forestry	2,865	(1+41)	1,000	52,500	10,800	12,900	-	80,065
5. Parks Shop	1,310	(2+14)	5,760	2,840	2,200	4,800	-	16,910
6. Concessions	595	(2+3)	640	-	800	2,100	-	4,135
Totals (sq. ft.)	21,230	(21+262)	21,375	121,665	87,200	87,000	-	338,470

Existing Department Provisions

At the five yards used, assuming an estimated 60/40 R&P/Works split at Nashdene, Type A and B space amounts to approximately 36,480 sq. ft.

Notes:

(a) The numbers in brackets are the respective office and field/shop staff that have to be housed.

(b) All other numbers are in sq. ft.

(c) Miscellaneous existing storage (small) at other locations has been included.

(d) Permanent staffing is around 110-115 based at the yards.

(e) Seasonal requirements increase Type "D" and "E" space by approximately 29,400 sq. ft.

The location pattern of service consumption is of a similar type to that of Works. There is a pronounced seasonal fluctuation in the volume of services delivered and hence a corresponding variability in yard space requirements over the year. The numbers in Exhibit 5 are presented as peak requirements. The Concessions Program does not necessarily have to be operated from a yard.

Appendices C and D contain all the necessary background material to support Exhibit 5.

5.4 Maintenance and Construction

Exhibit 6, Summary of Yard Space Requirements for Maintenance and Construction, follows the pattern already established in presenting data by program. No additional requirements beyond the Department's existing levels of accommodation have been identified for Programs 2 through 5. Excess capacity in types "A" and "B" space exist for Program 1, i.e. vehicle and equipment maintenance.

In terms of location preference, some program activities suggest resources should be concentrated and sited adjacent to major users, e.g. in the case of vehicle and equipment maintenance. Others point to a reasonably central location because of the distribution of work sites, e.g. in the case of Buildings Maintenance. Not all program components are actually based in a yard, e.g. some in Programs 2 and 3, being instead located at the point of service consumption. Other program components, e.g. some in Programs 4 and 5, need not be yard based.

Supporting detail is available in the appropriate sections of Appendices C and D.

EXHIBIT 6

SUMMARY OF YARD SPACE REQUIREMENTS FOR MAINTENANCE AND CONSTRUCTION

	A Office & Pers. Accommodation		B Functional Shop/ Internal Storage	C External Storage	D Vehicle Parking	E Parking For Empl. & Visitors	F Specialty Space	Totals
1. Vehicle & Equipment	3,555	(9+27)	21,650	-	22,500	12,000	3,000	62,705
2. Physical Plant	2,960	(7+24)	150	9,600	2,800	10,200	-	25,710
3. Buildings Maintenance	3,925	(5+45)	5,100	800	19,300	16,200	600	45,925
4. New Buildings	1,400	(7)	-	-	-	3,600	-	5,000
5. Internal Support	3,600	(18)	-	-	-	6,900	18,200	28,700
Totals (sq. ft.)	15,440	(46+96)	26,900	10,400	44,600	48,900	21,800	168,040

Existing Department Provisions

Building "D" at Ellesmere has a building area of approximately 12,500 sq. ft.	
1st floor functional, personnel and office space is approximately	12,500
2nd floor offices and personnel space is approximately	4,600
Total internal space available is therefore	17,100

Programs 2 through 5 are currently housed in the existing building "D". Their requirement from the above data is (2,960 + 150 + 3,925 + 5,100 + 1,400 + 3,600) or 17,125 sq. ft.

The existing garage building at Ellesmere (Part of Building "C") has a building area of 52,689 sq. ft.

Notes:

(a) Program 1 specialty space is for fuelling @ 750 sq. ft. per yard.

(b) Program 3 specialty space is for access to dust collector hopper. It could double as a vehicle parking space.

(c) Program 5 specialty space is for the antenna/radiobase (17,000 sq. ft.) and one weigh scale (1 @ 1,200 sq. ft.) per yard.

(d) The brackets after the Office and Personnel Accommodation space requirements contain the number of personnel office based (the first number) and the number who work in the field (or shop) and use personnel space as their base.

5.5 Other Users

The appropriate sections of Appendices C and D also provide the relevant background on Central Stores, the Animal Control Centre and the Public Library Board Administration. The resulting space requirements are as listed earlier in Exhibit 3.

Central Stores should be yard based to service its principal users who are M&C staff in vehicle and equipment maintenance and in buildings maintenance. The space requirements are based on the existing amount used by the Stores, but reduced by 10%, based on physical observations and estimates that more efficient cube space utilization is potentially possible.

The Animal Control Centre requirements have been taken from the preliminary plans for a replacement centre which were prepared in 1986. Although the existing centre sits on Ellesmere Yard, the replacement need not be yard located. Centre management stipulates a central site with good access is necessary to meet their program objectives. While a new location on Ellesmere Yard lands would be acceptable, so would other independent centrally located sites.

Space requirements for Library Administration were derived from its existing facility uses and the provisional plans the Board has for splitting the housing of the current functions located at Ellesmere Yard. Only its building maintenance activities need to continue to be yard based.

5.6 Summary

The foregoing discussion, comments and conclusions for all the existing yard users are assembled in Exhibit 7, Yard Properties and Facilities Location Preferences, on the next page. In this form they were used to devise the "ideal" yards' configuration concept.

EXHIBIT 7

YARD PROPERTIES AND FACILITIES
LOCATION PREFERENCES

User	Location Preferences
Works	The major routine components of the three main programs (S., S.O., W.W.) should be based in their local service areas. The non-routine parts of the same programs and their administration should be centralized at single locations preferably sited to minimize travel, communication and control difficulties.
Recreation & Parks	Grounds (area) maintenance should be based close to or in the parks being served. Shop operations and special duties should be concentrated in one location, preferably centrally. The concessions programs does not have to be yard based.
M&C	PPO and BMD should be based at the same yard preferably centrally located with supplementary space in specific facilities when appropriate (e.g. at the Civic Centre for BMD). V&E maintenance should be concentrated and located close to the quarters holding the largest portion of the fleet.
Central Stores	Adjacent to the garage.
Animal Control	It should have a central location on a main thoroughfare on a site with appropriate zoning. Either an existing City owned or vacant site would be suitable. A yard location is preferable but not essential.
Library Admin.	Could be located anywhere, but splitting functions currently housed at Ellesmere is planned. A City owned site would be preferable but a yard location is optional.

6.0 THE POTENTIAL ALTERNATIVES FOR DEVELOPMENT

6.1 Our Approach

In generating feasible alternatives, we endeavoured to improve on the existing configuration, take advantage of the aggregate surplus site space, and to locate any new yards where space is available, zoning was compatible, and positional advantages were evident. We did not conduct an exhaustive search across the City in and around the ideal locations for yard sites. To avoid potential conflict with other City objectives and existing users of "ideal" sites, we relied instead on the catalogue of Industrial Vacant Land in the City issued by the Economic Development Department in January 1987. Whenever a new site was required in developing the alternatives, we selected the most suitable plot(s) in the appropriate Industrial District. Sections 6.2 through 6.7 that follow describe the generic options identified as a feasible set of development alternatives.

6.2 Build Up the Bigger Yards

This alternative involves keeping and developing Ellesmere, Nashdene, Morningside and McCowan. The yards at Birchmount and Brimley would be closed and the lands sold, if the City had no further use for them. Heron Park and Thomson Park Yards would be downgraded to storage locations. More than two storage locations may be required depending on the specific characteristics of the demand being serviced from each main yard. Depending on the different combinations of departmental program allocated to or between each yard, variations are possible in how this alternative can be implemented. The major users - Works, and Recreation and Parks - would, however, have operations based at each one of the four yards.

6.3 Eliminate the Biggest and the Smallest

With this alternative, Nashdene, Morningside, McCowan and Birchmount would be kept and developed. The Ellesmere and Brimley Yards would be closed and their buildings and land sold. Heron Park and Thomson Park Yards would be treated in a similar manner to that described in Section 6.2. Once again, depending on program assignment to the four yards, variations in this generic alternative are possible.

Because this alternative has approximately one third less site area than the alternative of Section 6.1, it is highly probable that it will only permit retaining programs which be yard based as being so located. Even with this limitation, the space requirements, when matched with site specific characteristics, may dictate that Brimley has also to be retained. Instead of retaining both Birchmount and Brimley, a new yard appropriately located might also be contemplated. Unfortunately, no sites are available in the Ellesmere and Wexford Industrial Districts. One appeared to be in the Golden Mile Industrial District. It has the drawback of proximity to McCowan, being immediately north of the existing Upton site. Exchanging the site at McCowan for the block of land in the Golden Mile Industrial District under discussion can also be envisaged because the latter is a larger site.

6.4 Eliminate the Biggest and the Smallest and Replace a Potential Problem

This alternative is a variation on the one described in Section 6.3. Morningside Yard would be replaced with one yard in Coronation Drive or Centennial Industrial Districts along the lake, and one yard in the Rouge Industrial District.

6.5 Replace the Biggest and the Proposed

With Ellesmere closing and McCowan lands being sold or exchanged, the existing trio of yards at Nashdene, Morningside and Birchmount would be rounded out with (i) a smaller new central yard in the most easterly part of Progress Industrial District, and (ii) a new area yard in Golden Mile Industrial District.

6.6 Use Three New Yards

Two conceptual variants of this alternative exist. The first is an evolution of the option described in Section 6.5. It would involve closing Ellesmere and Birchmount Yards and disposing of the McCowan lands. Nashdene would be kept along with Morningside, and new yards would be established as per Section 6.5 along with one in Milliken or Steeles Industrial Districts.

The second variant shifts away from an arrangement with a centrally located "mother" yard to one with two "mother" yards. The rationale behind this type of arrangement is that of physical limitations. One "mother" yard - whether or not it is centrally located in the City - may be unable to accommodate all its assigned functions. The two "mother" yards then have to share the functions which should be centralized (i.e. some at one and ideally all the balance at the other) in a way that minimizes duplication. Each "mother" yard would have two smaller satellites. Nashdene would act as the northern "mother" yard and McCowan would be developed to fill the role of the "mother" yard in the southern half of the City. Nashdene satellites would be the existing Morningside yard (just south of the 401 Highway north-south boundary) and a new yard in Milliken Industrial District. The new McCowan Yard would have the existing yard at Birchmount as one of its satellites and a new yard (the third one) in Coronation Drive Industrial District as the other.

With the two types of conceptual arrangements described, the first one would have a centrally located yard with just enough space for the activities that either must be centrally based or confer significant economic advantages from being so located. In the second arrangement with two "mother" yards, each one would have assigned both centrally controlled activities and local area ones. Both "mother" yards could then be expected to be larger (in aggregate) than a single central "mother" yard configuration.

It is also possible to envisage the existing Morningside Yard being replaced by a new yard in the Rouge Industrial District. This would make the two "mother" yards, four satellite yards configuration one that requires four new yards. While a total of six yards is more than the "ideal", it is not impractical, given the distribution of population in the City. After considering an arrangement with four new yards, the final potential alternative addresses implementing the ideal configuration.

6.7 Go as Close as Possible to the "Ideal"

Five new sites for the "ideal" configuration would have to be found because the existing yards are all in the "wrong" locations. Each of the existing yards would be closed, although those in the parks could function on a temporary or seasonal basis for quartering equipment and materials. The non-park sites would be sold if they were not required by the City for other purposes. One possible arrangement derived from the industrial vacant land catalogue discussed in Section 6.1 is a set of five yards located as follows:

Industrial District Name & Catalogue Map Code		Vacant Site No.
1 in Centennial	B	8 through 11
or Coronation Drive	C	7 or 9
1 in Milliken	I	23 through 28, or 9, or 10
1 in Rouge	M	Parts of 9, or 23, or 5 or 6
1 in Progress East	L	4

Substituting an existing yard (and developing it) for one of the set above would produce variations on the basic generic alternative.

7.0 ALTERNATIVES EVALUATION

7.1 Preliminary Considerations

Before we began looking at the detailed aspects of alternatives evaluation, we first reviewed them for feasibility from the perspective of site and site availability. This was done as a means of eliminating some of the contending alternatives from further study. In conjunction with size and availability fit, we also assessed whether or not any of the alternatives were dominated by any of the others from an economic and operational point of view. Appendices F and G contain the results of this work. Exhibit 8, Main Alternatives Sizing, summarizes the three main alternatives that emerged:

- retaining Ellesmere and developing it and the bigger yards
- disposing of Ellesmere and establishing one new "mother" yard
- disposing of Ellesmere and establishing two new "mother" yards.

In the exhibit, the reference numbers relate to the specific section of Chapter 6 where the potential alternative was first described. The next section explains the methodology we adopted to examine the pros and cons of the three serious contenders.

7.2 Criteria and Methodology

We proposed to the Study Steering Committee that the alternatives be evaluated in a multi-dimensional manner and that the existing situation and yards configuration be taken as a base line. The implication of the last point is that an incremental approach would be employed in assessing impacts. After clarifying discussions, we presented to the Committee the dimensions (or criteria) that were in our opinion the most important.

EXHIBIT 8 MAIN ALTERNATIVES SIZING

Alternative Name	Retain Ellesmere	One Mother			Two Mothers	
Section Reference	6.2		6.3		6.6	
Version		(1)	(2)	(3)	(2)	(3)
Yard Location						
Ellesmere	9.76					
Morningside	2.20	2.20	2.20	2.20	2.20	
Nashdene	4.81	4.81	4.81	4.81	4.81	4.81
McCowan	4.30	4.30	4.30	4.30	4.30	4.30
Birchmount		1.78	1.78	1.78	1.78	1.78
Brimley			0.87			
Balance at Upton			0.55			
New in Northern Half of City				4.00		
New in Milliken I.D.					2.00	2.00
New in Rouge I.D.						2.00
New in Coronation or Centenntial I.D.					2.00	2.00
Totals	21.07	13.09	14.51	17.09	17.09	16.89

Notes:

(a) All figures are in hectares.

(b) McCowan site land area is actually 4.91. The 4.30 listed allows for proposed road widening. But there are prospects to increase the useable area to 5.65 ha.

(c) Making any changes to the assignment of City operations to Birchmount will probably require the site access to be improved.

(d) The balance at Upton would only be suitable for storage purposes.

(e) New yard site areas are nominal ones.

They were:

- physical factors
- operational acceptability
- effects on levels of service delivered to the public
- economic/financial impact on the City as a whole
- intangibles

We now discuss each of the set of criteria in turn.

Physical Factors

Physical factors dictate that the recommended alternative be readily implementable. Some aspects have already been discussed in Section 6.1 where we explained how we generated the potential alternatives. With that set now reduced to three main contenders, such matters as matching requirements with available and easily acquirable space and site specific characteristics such as access, zoning and planning compatibility come into play. The way City operations are assigned to each yard and whether or not the space provisions are made in integrated multi-story buildings may also be important considerations.

Operational Acceptability

On this dimension we address the particulars of such matters as access and its consequences for dispersal and response, distribution of resources across the City, "live-ability" of space allocations from a tenant perspective, the mechanics of communication, coordination and control, available crew time for value adding activity, and the suitability of any consequential changes in working arrangements. Some of the items listed overlap with physical factors and indicate interdependence. In the absence of mandatory requirements and building constraints imposed by the way tenant operations must be performed, we decided to adopt as a benchmark, a "no worse than at present" rule of thumb.

Effects on Levels of Service Delivered to the Public

These flow from the operational regime either imposed by a particular yard configuration or chosen by management as the effective way to deliver departmental programs. Given that this is so, we chose to assume that if an alternative was acceptable on operational grounds then the impact on levels of service would also be acceptable. We appreciate the importance of the public's perception of any actual impact, but believe that user department management can synthesize it to the extent necessary for it to be incorporated into their departmental modes of operation.

Economic/Financial Impact

While a multitude of influences could be included under this heading, we suggested to the Steering Committee that only agreed major or material items be included. As the impacts were expected to be sensitive to the implicit and specific explicit assumptions adopted, we proposed that these be tested, and in particular that:

- land values for potential sales or acquisitions estimates be acceptable to the Economic Development Department
- construction and modification cost estimates be acceptable to the Maintenance and Construction Department
- financial approach and parameters used, such as the social discount rate, are acceptable to the Treasury Department.

Intangibles

Intangibles cover the qualitative impacts in such important areas as industrial relations, morale, management control, quality of working life, a departmental yard focus versus a City yard focus. With there being

different opinions on how intangibles interact with the more readily quantifiable effects of a specific alternative, we only comment on the particular issues we deem important to the particular alternative under consideration.

Methodology

A paired comparison process was used to differentiate, (i) between the two alternatives involving disposal of the Ellesmere site and then, (ii) between the retaining Ellesmere option and the better one of the two disposal alternatives. In the first stage, detailed economic/financial impact evaluation was only to be used if it was required to confirm or clarify the indications from the other criteria.

We decided not to use numerical rankings, weightings relating to significance and cumulative scores because such procedures appeared to be unwarranted.

7.3 Overall Assessment

Exhibit 9, Overall Assessment of the Main Alternatives, summarizes the outcome of our evaluation work. The bottom half of the exhibit contrasts the two alternatives involving disposal of the Ellesmere Yard lands. Further details are contained in Appendix H1, The Ellesmere Disposal Pair. The appendix explains and discusses why the alternative with one northern and one southern "mother" yard with four satellite yards is superior.

In the top half of the exhibit, the latter alternative is contrasted with the one based on retaining and developing the Ellesmere Yard. Appendix H2, Disposal Versus Retention of Ellesmere, has the supporting detail. In Sections 7.4 and 7.5 that follow, further comments are made about the financial/economic and intangibles impacts of the main alternatives.

EXHIBIT 9 **OVERALL ASSESSMENT OF THE MAIN ALTERNATIVES**

Name/ Dimension	**Keep Ellesmere** Reference 6.2	**versus**	**Close Ellesmere** Reference 6.6
Physical	possible and easy to realize		possible and harder to implement
Operational	builds on present; minor improvement		new practices required, some pros and minor cons
Services to Public	improved marginally		potentially positive
Economic/Financial	barely breakeven		expected positive
Intangibles	neutral		positive or negative
	Close, One Mother Reference 6.3	**versus**	**Close, Two Mothers** Reference 6.6
Physical	barely possible due to space limitations		possible
Operational	negative due to access and space limitations		new practices required, but should be acceptable, despite some negative aspects
Service to Public	neutral		potentially positive
Economic/Financial	expected positive		expective positive
Intangibles	neutral or better		probably positive

Note: The intended comparisons are to the status quo.

7.4 Economic Appraisal

All the data, assumptions, and discussions of the economic/financial impact are presented in Appendix I, Development of the Economic/ Financial Impact of the Main Alternatives. Exhibit 10, Order of Magnitude Economic/Financial Impact in Millions of 1987 Dollars, on the next page is an extract from that appendix. It summarizes the material cost elements and net position of each alternative. The use of ranges is intended to convey (i) the sensitivity of the amounts to variations in the assumptions and (ii) the uncertainty surrounding some of the projections which have to be made in the process of determining the magnitude of the impacts.

7.5 Intangible Factors

Appendix J, Identification and Discussion of Intangibles Influence on the Main Alternatives, contains all the descriptions of the type of items that were identified and considered under this heading. As the appendix points out, there are no clear cut answers. We have attempted to report on the different points of view that may apply in the case of each item discussed. Where we have reached a conclusion on a particular aspect, we have attempted to explain why we have done so. Drawing on the appendix, Exhibit 11, Outcome of Intangibles Assessment, summarizes our conclusions on this dimension of our evaluation.

EXHIBIT 10 **ORDER OF MAGNITUDE ECONOMIC/ FINANCIAL IMPACT IN MILLIONS OF 1987 DOLLARS**

	Alternative	
Name	Keep Ellesmere	Close Ellesmere
Reference	6.2	6.6
Major Item		
Land Sales/Purchase	1.0 to 1.4	3.7 to 15.4
Building Costs	5.5 to 6.0	13.3 to 14.3
Municipal Taxes Inflow	1.2 to 1.7	10.3 to 13.5
Travelling	negligible	4.5 to 5.5
Synergistic Effects	0.3 to 0.5	0.5 to 1.0
Upton Adjustment	1.5 to 1.9	1.5 to 1.9
NET POSITION	(2.0) to 0	(3.8) to 14

Notes:

(a) Care should be used in interpreting the above summary data.

(b) Ranges are intended to reflect outcome numerical value sensitivity to the underlying assumptions and uncertainty.

(c) The range in net position was derived from taking the appropriate combinations of costs and benefits or gains (i.e. worst with least and least with best).

(d) Brackets round figures in the Net Position row indicate a negative result.

(e) Appendix I is the souce of the above data.

(f) A contribution for the acquisition of adjacent land to augment the McCowan site is not included in the above figures.

EXHIBIT 11 OUTCOME OF INTANGIBLES ASSESSMENT

	Alternative	
Name	Keep Ellesmere	Close Ellesmere
Reference	6.2	6.6
Effected Factor/ Factor Influencing		
Organizational Culture	F	M
Communications and Management Control	N	M
Human Resources	N	M

Note:

The letters F, N, and M signify favourable, neutral and mixed (i.e. both favourable and unfavourable) elements exist within the factors in question.

8.0 THE RECOMMENDED OPTION

Subject to the conditions stated below, we recommended that the City adopt the two "mother yard", four satellite yard concept as the basis for its yard development over the next 20 to 30 years. This means that the Ellesmere Yard operations would be phased out over time and that all the land at the site be sold for redevelopment. Good decisions in the past resulted in the fortunate position the City has with the Ellesmere Yard today. We believe the time is right for the City to make another strategic decision about its yard facilities to prepare the way for the next phase of the City's growth over the longer term future.

The conditions are threefold. Funds are required for the development. Variation in opinions of the value of Ellesmere site are significant and need to be resolved. We anticipate development of the City yards would be self-financing. A first condition is, therefore, that an independent professional valuation establishes that the Ellesmere site is worth a sum large enough to cover the yard development. Our second condition relates to physical and operational details. These must, within reason, satisfy and be acceptable to the user departments. The third condition involves the important issues relating to other planning processes currently taking place in the City, and on which we have limited information owing to the confidential nature of its content. On a hypothetical basis, however, a larger City plan to develop the lands and properties around the Civic Centre will almost inevitably include serious consideration for the redevelopment of land such as the Ellesmere site. The third condition is therefore that the recommended option is consistent and compatible with City planning policy and strategic direction.

As stated earlier, we recommend that an appropriate plan should include disposing of the Ellesmere site, and the setting up of two "mother" yard plus four satellite yard system. In reaching our conclusion, we have assumed the McCowan site is augmented to the full extent possible. We believe a master plan based on the recommended alternative will best serve the longer terms interests of the City and its citizens.

To illustrate how the recommended option could work operationally, we have summarized the functional assignment and resource allocations made at each of the six yards. We deal first with the three yards in the southern half of the City, and after brief comments continue with the three in the northern half. The material is taken from Appendix K which should be consulted for further detail and discussion.

Yard-F/T Staff (Gross Site Space)	Functions Assigned	Resources Allocation Comments
McCowan - 313 (÷600,000)	Works - Sanitation	34 staff
	- Streets	55 staff, area and most central units
	- Administration	12 staff
	- Inspection and Test Lab	29 staff
	Parks - Area Maintenance	15 staff
	- Special Duties	15 staff
	- Shop	14 staff
	M&C - Veh. and Equip.	36 staff
	- PPO	32 staff
	- BMD and some support	60 staff
	Central Stores	11 staff
Birchmount - 83 (÷191,000)	Works - Waste Water	13 staff
	- Streets	40 staff, area and sweeping unit
	- Survey	18 staff
	Parks - Area Maintenance	12 staff
Coronation - 59 (÷215,000)	Works - Sanitation	34 staff
	- Waste Water	13 staff
	Parks - Area Maintenance	12 staff

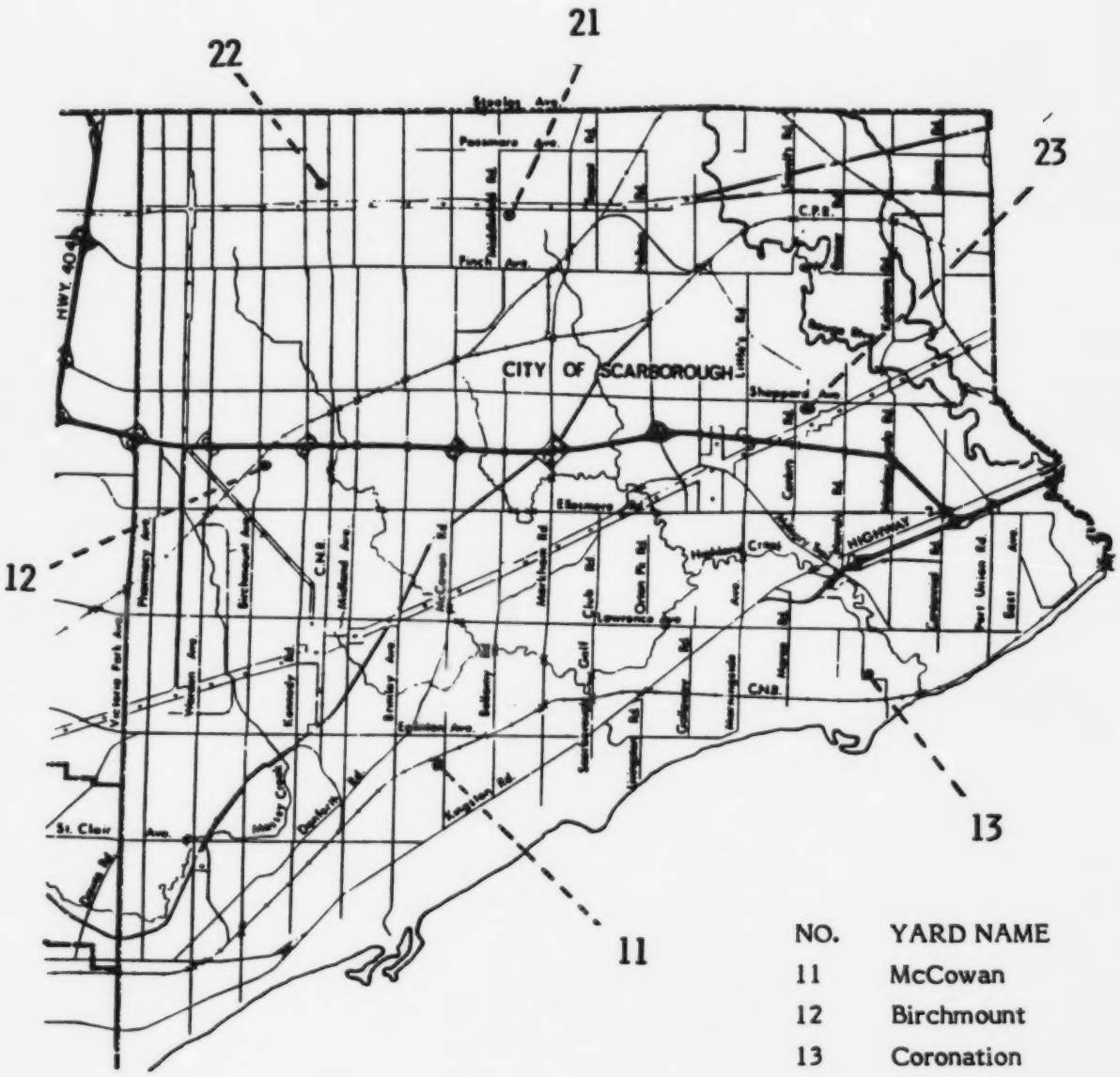
The yard available gross site space is quoted in sq. ft. It has been assumed that the McCowan site can be augmented. This is a key assumption. The staffing allocated to each function includes the approximate number of both office and field staff. Appendix K contains details on derivation along with all the other assumptions inherent in the above. For example, some of the implicit assumptions made are (i) the three main Works programs are in four yards each but not the same ones, and (ii) two of the main Works programs are run out of McCowan and the other out of Nashdene. The northern segment is detailed overleaf.

Yard-F/T Staff (Gross Site Space)	Functions Assigned	Resources Allocation Comments
Nashdene - 135 (÷517,000)	Works - Waste Water	22 staff, central unit
	- Streets	25 staff, area only
	- Trans. & Signs	27 staff, shop & field
	Parks - Area Maintenance	15 staff
	- Horticulture	15 staff, citywide
	- Forestry	26 staff, citywide
	- Concessions	5 staff, citywide
Milliken - 59 (÷215,000)	Works - Sanitation	34 staff
	- Waste Water	13 staff
	Parks - Area Maintenance	12 staff
Rouge - 71 (÷215,000)	Works - Sanitation	34 staff
	- Streets	25 staff, area only
	Parks - Area Maintenance	12 staff

Site specific characteristics at McCowan and Birchmount may dictate that both the Survey and Inspection/Test Lab Programs be relocated to Nashdene. We understand the majority of their work is expected to be in the northern half of the City.

Exhibit 12, Locations of the Yards in the Recommended Option, on the next page shows the spatial arrangement of the recommended option.

EXHIBIT 12 LOCATIONS OF THE YARDS IN THE RECOMMENDED OPTION



NO.	YARD NAME
11	McCowan
12	Birchmount
13	Coronation
21	Nashdene
22	Milliken
23	Rouge

Note:

McCowan, Coronation, Milliken and Rouge are all new yards

9.0 MANAGEMENT AND OPERATIONAL ISSUES

9.1 General Comments

The City yards facilities in our recommended option should be managed and operated on an integrated basis. The two major departmental users should quarter their resources, distributed appropriately, at each permanent site and reconfigure their service routes, patterns or areas around the same centres. This may involve a departmental service effectiveness use of resources efficiency balance that is different from the prevailing situation. Through the introduction of alternative methods of service delivery, the application of department planning skills (at the detailed level) can result in improvements in current performance. Moving to the new configuration must be regarded as an opportunity.

Although some concern exists over the absence of a geographically centrally located yard facility, from a City-wide perspective, the potential problems in operating without one may have been over estimated. Centralized functional control of departmental programs need not be adversely affected. Given that most departmental programs delivered from the yards have historically developed under such management control, it would be unwise to change it without adequate justification. We see, for example, management of Works programs being controlled centrally, perhaps at different locations (none of which is geographically in the centre of the City) in a manner similar to the existing arrangement for Recreation and Parks programs. Centralized administrative support for departmental programs will still be possible, particularly with the appropriate use of information systems technology. A potentially viable and effective alternative would be to have decentralized yard administrative support, which caters to all user departments at a yard location.

With integrated buildings constructed at all new locations, flexibility will be induced in the use of resources between departments and sections - particularly where they have out-of-phase peak resource requirement and needs. In addition to considerations of economy in providing new facilities, this secondary reason positively supports such facility provision at each new yard.

The concept of "two mother yards" has little connotation of higher overhead costs and duplication. The only "overhead" department groups to benefit from a central geographic location are those providing administrative support. With the introduction of remote data entry at each City yard, even without the acceptance of the introduction of yardwide administrative support, the case for the main user departments having their administrative support centrally located is difficult to justify.

Where there is a case for providing common services to the main user departments, i.e. the functions provided by M&C and Central Stores, there is a case for having them geographically situated in a central location. These common services should be centrally controlled. The operational issue is how these common services can be provided for each yard location (both satellite and mother) as effectively, efficiently and economically as the present arrangements. Innovative solutions are available, e.g. using a combination of local stock holding (but under centralized control of the one main store location) and delivery service; having a mobile team perform "A" vehicle inspections and servicing at each location where user departments have their assigned equipment quartered. The latter point would mean, as an added advantage, that identical capabilities for doing the work in question would be potentially available at each of the six yards.

The sections that follow comment on more specific matters concerned with each of the yard using departments. Appendix L lists potential issues that are of concern to users. We address those that needed resolution in the relevant section below.

9.2 Works

Covered storage for vehicles should be the exception rather than the rule. In developing the space requirements for the next 5 to 10 years, we have generally accepted that the existing storage capacity for vehicles and equipment will be retained. But during the detailed design stage for each yard facility, vehicle and equipment fleet management (in Maintenance and Construction) in conjunction with program managers should review the position and confirm the requirement. The concern is not to lower the user perceived level of quality from the existing situation, but rather to ensure consideration is given to alternatives before new facilities are built.

With regard to providing weigh scale services at each of the six yards in our recommended option, we are not able to substantiate that they are essential capabilities. Works is the only department which takes a different position.

Routine servicing capability should be provided at each of the six yards in the new configuration. This will remedy existing deficiencies and lessen residual concerns on travelling to a maintenance centre.

Guidelines need to be established on the provision of paved/unpaved vehicle and equipment parking and storage. For example, items in normal year round use should be parked on paved space; seasonal items should be considered on the merits of each particular type of equipment. External versus internal storage is a related area as far as seasonal items are concerned.

9.3 Recreation and Parks

The recommended option would eliminate the issue of travelling, provided custom and practice work rules are brought into line. Crews should be required to take their lunch break at the nearest convenient location, due to the nature of their work. To contain any overlap in capability, the Parks Shop should be located beside those of M&C, i.e. BMD and the main garage. But because of space limitations at McCowan, and if detailed design shows that co-location is impossible, then the Parks Shop function may have to be located at Nashdene, the other "mother" yard.

Small engine repair and overhaul should become the responsibility of M&C's vehicle and equipment maintenance division to take advantage of specialization, availability of technical advice and to eliminate duplication. Welding capability and experience within the City primarily resides with Parks Shop/Special Duties personnel. Given that welding in the field is a major portion of the workload, it makes sense for Parks to take the lead in provision of welding services. The "welding shop" as it were, would be more appropriately located however at McCowan adjacent to the M&C capabilities. Should the mix of welding activity between field and shop work alter in favour of the latter, then the "welding shop" should become M&C's responsibility.

Storage of seasonal equipment over the months it is not in use should be concentrated at McCowan and Nashdene.

9.4 Maintenance and Construction

The desire by vehicle and equipment fleet management to develop the skill of their maintenance personnel is understandable, but a review of the types and volume of activity subcontracted suggest that upgrading the garage capabilities is unwarranted, apart from improving testing and diagnostic equipment. Comments on consolidating small engine repair and overhaul function were made in Section 9.3.

Investigation indicates that a paint shop for the City would be difficult to justify. The case for a welding shop is stronger when M&C and Parks needs are combined. With Parks apparently having the larger workload and the bulk of the expertise, the "City" welding shop (located adjacent to M&C shop activities) should continue to be that Division's responsibility.

Weigh-scale services were discussed in Section 9.2. Currently M&C participates in manning the existing scales. M&C should, we suggest, relinquish all involvement in providing this service.

The group within the Library Board Administration Operation that maintains the Board buildings could easily be absorbed by M&C. It is a recognized duplication of activity. M&C and the Library Board Administration should conclude arrangements to realize this objective. Other facets of building operation (e.g. janitorial, housekeeping and security services) should be included in these discussions.

Improving the management of small tools and equipment is an area, suggested by M&C, which might yield operational improvements. Concepts such as "rent-a-tool" have been aired. In operation, such a concept would mean that each of the permanent yards would have a tool crib run by M&C. This contrasts with the current practice where each yard user stores and looks after their own items of tooling and small equipment. The concept of M&C taking over responsibility may bring benefits to the City as a whole, but a case based on the detailed pros and cons would still have to be made. In principle we subscribe to the policy that tools and small equipment with a unique user should be kept and looked after by that user. Common usage items and special purpose items used infrequently by a crew can be provided by a tool crib service provided there is sufficient volume of activity i.e. in issues, tool repair and overhaul, replenishment etc. We believe there is little to be gained in re-arranging the existing practice, because of the small number of people (up to 6 maximum), and the type and level of activity involved, unless end user performance will benefit. Central Stores existing tool functions would be unaffected by such changes in tool and small equipment support.

9.5 Other Users

The space requirements for Central Stores needs to be confirmed from first principles during the detailed design stage of implementation. With a policy of holding single end user items in satellite storage areas - under centralized inventory management and control - the gross figures we have used for the aggregated requirements are more than adequate. The opportunity to design and commission a purpose built structure should be used to make savings in those maximum requirements.

Whether or not evening service should be provided in the manner currently practiced is a function of the operating behaviour of the departments supported. For example, the new garage may be designed to be run more intensively than the existing facility. Fewer vehicle bays, utilized on a two shift basis, is one possible scenario. Even with this arrangement, however, it may be possible with good planning to provide parts support on just one shift, and have this supplemented by breakdown/emergency call out, although experience suggests that this type of arrangement does not often work. An alternative is to permit access by the afternoon shift garage supervisor.

9.6 Recommendations Summary

Based on the preceding sections of this chapter, relating to management and operational aspects of the City's adoption of the six yard configuration, and the additional detail in Appendix M, we recommend that:

- The main users - Works and Recreation and Parks - should be represented in each of the six City yards in the recommended option unless, for some of their programs, they can make a substantial case to the contrary.

- Remote data entry capability be made available at each permanent yard.

- Centralized control of departmental programs contine to be the preferred mode of operation.

- The departmental functions, programs and operations be allocated as a starting point for fine tuning operational planning as described in Chapter 8 and Appendix K.

- All building space required on the new yards should be integrated into single structures to take every advantage of opportunities for interactive support.

- Functions (and programs) that are best operated from a single location should not be shared between yards, i.e. assignments of central functions should only be split between the two "mother" yards when space constraints impose this condition.

- Routine servicing, (i.e. fuelling, washing, cleaning, lubrication, etc.) capability be provided at each yard in the new arrangement.

- For Works,

  - covered storage of vehicles be provided on an exception basis and that the exceptions be agreed with M&C fleet management;

  - weigh scale service capability should not be provided at any new yards unless Works can make a case on operational and economic grounds that it is needed;

  - weigh scales at Nashdene Yard should be retained to discharge public use responsibilities and only be manned on an as required basis;

- guidelines be established to address paved/unpaved vehicle and equipment storage and parking (and also for seasonal items, internal versus external) and used to confirm space requirements at the detailed design stage.

. For Parks,

- working practices regarding lunch breaks should be rationalized to minimize unnecessary travelling;

- shop operations should be co-located with M&C shops;

- small engine repair and overhaul responsibility should be transferred to M&C, but user servicing of Parks equipment (i.e. non-rated) should be retained;

- the City welding shop capability be provided by Parks Shop/Special Duties.

. For Maintenance and Construction,

- upgrading vehicle and equipment maintenance capability internally should be limited to improving testing and diagnostic equipment;

- weigh scale operation should be returned to Works;

- building maintenance of Library Board buildings should become part of M&C responsibilities;

- welding services supplied by the Parks be the first choice as a source of supply to meet BMD and Central Garage needs.

. Space requirements for Central Stores, both internal and external, be established in detail in view of the trend towards local stockholding for single end user items.

10.0 IMPLEMENTING THE RECOMMENDED OPTION

10.1 Sequence of Activities and Events

The initial phase of the process involves removing the three conditions attached to the recommended option. Three main activities are required to proceed in parallel to achieve this end. They are:

- resolving all the lands issues
- developing a consensus between yard users over operating with the new configuration
- establishing a strategy for the Ellesmere Yard site.

The Land Issues

The value of the Ellesmere Yard site has a strong bearing on the economic/financial impact of moving to the new configuration. To confirm our estimate, an independent professional appraisal could be obtained.

The next component of the lands issue is the need to acquire the rights to physically put the new arrangements in place. Despite long leadtimes in their facilities construction, we recommend obtaining options on the necessary sites in Milliken, Rouge and Coronation Industrial Districts. Equally important are the land transfers associated with augmenting the McCowan site. These need to be agreed and executed before any detailed work can be finalized. Clarifying the access situation at Birchmount and exploring the remote possibility of augmenting this site (or obtaining some adjacent off-site staff parking) is another issue in the lands category. The final item is the acquisition of the independent site for the new Animal Centre.

A Concensus Over Operations

While we have proposed how the various yard functions can be distributed in the new yards configuration, we have stated that it should be seen as a first stage in a process of refinement to be carried out by the users themselves. We appreciate that not all users are convinced as individual departments that the initial functional allocation is to their advantage. This may stem from difficulty in accepting the two "mother" yards concept, particularly by Works as the Parks Division of R&P already operates in this mode. During the study, we endeavoured to appreciate and understand all user yard operations to the level and degree necessary to identify their critical factors. But it was not within our terms of reference to pursue all the finer points of detail on operational matters.

From the perspective of the City as a whole, the absence of adequate substantiation for individual objections should be regarded as the minimum acceptable level of consensus over the recommended option.

A Strategy for Ellesmere Yard Lands

For the City to take the decision to adopt the recommended option, the last condition to be fulfilled is that of compatibility and coherence with the City's overall intent and official plans for the central area corridor. Such compliance is an internal matter. For the purposes of our recommendations, we assume it will present no difficulties. It supports the consideration of wider alternatives on what type of development should be permitted, and just how it should be put in place. These are important matters if the intent is the achievement of self financing for yard development. The City might wish to pursue its intent and objectives (regarding the Ellesmere site) by inviting major developers to propose ideas and schemes for phased execution. Because operational practicalities indicate that the continued use of Ellesmere Yard will continue for a number of years, negotiating options on either individual parcels or the complete site is one approach to releasing funds.

The Physical Steps

With the completion of the foregoing activities, the way forward will be clear to proceed with putting the physical details of the new yard configuration into place. We see this being done on a yard-by-yard basis. While there could be some overlap in activities, we suggest that the following sequence meets the need to maintain operations and implementation momentum at an acceptable level:

- Design, construct and commission (D,C&C) the new yard at McCowan over a two to three year period;
- Close Brimley and Upton and process the disposal of these yard's lands;
- D,C&C the new satellite yard on the site acquired in Milliken Industrial District;
- Relocate Parks crews, equipment and materials to Ellesmere from the Birchmount Yard to permit its redevelopment;
- Redevelop/upgrade Nashdene Yard;
- D,C&C two new satellite yards first in Coronation Industrial District and then in Rouge, using designs based on the Milliken Yard;
- Vacate Morningside Yard and lease the lands for a compatible leisure use to the proposed water slide (assuming it to be in operation).

Functions would leave the Ellesmere site as their "permanent" homes become available. The Ellesmere site would be used when necessary as temporary quarters (e.g. for some Birchmount groups) when redevelopment of their "permanent" quarters was in progress.

By the end of the fourth step, the bulk of existing Ellesmere users should be housed in their new quarters. Further details and discussion on implementation is contained in Appendix N.

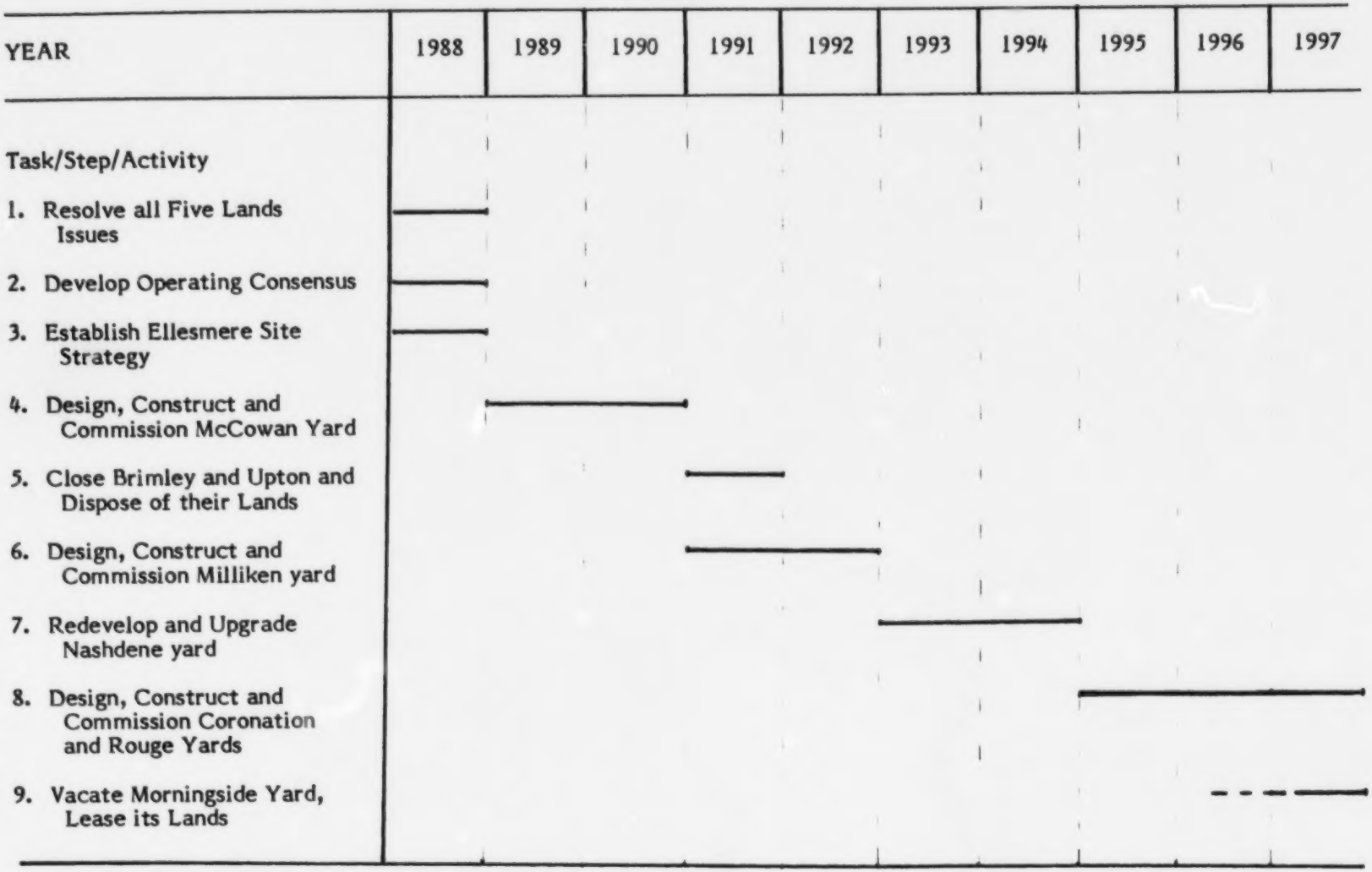
10.2 Timing

We envisage the earliest complete implementation occurring over a broad band of time, e.g. 5 to 15 years. In evaluating the three main options for development, we have assumed this range.

For planning purposes, we would advocate that the City aim to have completed the first three physical steps by the end of 1992. Despite unknowns about the type of development and the pace with which an external developer might want to proceed, we doubt if there will be a need to completely vacate the Ellesmere site before 1998. Should our prognosis be incorrect, the City will still be in a position to increase the rate of implementation.

10.3 Implementation Schedule

Synthesizing the material contained in the preceding two sections and Appendix N, Exhibit 13, Outline Implementation Schedule, on the next page presents the implementation sequence we recommend the City should adopt.

EXHIBIT 13

OUTLINE IMPLEMENTATION SCHEDULE